INSTITUTIONAL EVOLUTION OF AGRICULTURAL EXTENSION IN EUROPEAN COUNTRIES - A CONCEPTUAL FRAMEWORK AND IMPLICATIONS FOR ESTONIA

By

Ivar Dembovski

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Declaration

I hereby declare that this thesis has been composed by me and that all work presented in the thesis is my own unless specifically otherwise stated.

December 9, 1993 Ivar Dembovski

Abstract

Title: Institutional Evolution of Agricultural Extension in European Countries - A Conceptual Framework and Implications for Estonia

Author: Ivar Dembovski

The complex of organisations within countries that provide advice to agricultural producers has become increasingly diverse since the Second World War. This study aims to (1) improve the understanding of the process of development of such Extension Complexes in relation to changes in agricultural policy and production and (2) to relate this understanding to the development of policies with regard to agricultural extension institutions in Estonia.

A detailed analysis of the evolution of the Extension Complex in the United Kingdom is undertaken that forms a background for elaborating a Conceptual Framework characterising qualitative changes in the complex of extension institutions in relation to changes in policy orientation. In order to validate this Conceptual Framework, relevant changes in Denmark, Finland and the Netherlands are first described and then compared to the Framework.

Data about developments in Extension Complexes, for background and validation studies, were gathered from a variety of sources using different methods: (1) a review of official publications to obtain information about changes in public advisory organisations and agricultural policies; (2) in-depth interviews with senior staff in private advisory organisations; (3) a mail survey of small independent consultancy operations; (4) an open ended questionnaire was mailed to senior representatives involved in advisory work in the countries chosen for validation of the framework

The Conceptual Framework has been validated against conditions in a variety of European countries and it is concluded that it can be of relevance in assisting decision making concerning development of the Extension Complex in Estonia. A number of implications are identified from the Conceptual Framework about likely developments in the Extension Complex of Estonia after identifying the current situation and its origins.

Key words: Extension Complex, Public Agricultural Extension Services, Private Agricultural Advisory Services, Institutional Development, Agricultural Policy, Conceptual Framework, Qualitative Analysis, England, Scotland, the Netherlands, Denmark, Finland, Estonia.

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List of Abbreviations

ADAS	Agricultural Development and Advisory Service, England and Wales
AERDD	Agricultural Extension and Rural Development Department, University of Reading
AICC	Association of Independent Crop Consultants, Great Britain
AKIS	Agricultural Knowledge and Information System
ANDA	Association Nationale pour le Developpement Agricole
BIAC	British Institute of Agricultural Consultants
BNS	Baltic News Service
CAP	Common Agricultural Policy
COSAC	Council of Scottish Agricultural Colleges
DAAC	Danish Agricultural Advisory Centre
DLV	Dienst Landbouw Voorlichting
EC	European Commission
EEC	European Economic Community
FAO	Food and Agriculture Organisation of the United Nations
FWAG	Farming and Wildlife Advisory Group
GDP	Gross Domestic Product
IERM	Institute of Ecology and Resource Management, University of Edinburgh
IKC	Information and Knowledge Centre
IRDE	Institute of Rural Development of Estonia, Agricultural University of Estonia
LFA	Less Favoured Areas
MAFF	Ministry of Agriculture, Fisheries and Food, England and Wales
MAFN	Ministry of Agriculture and Food of the Netherlands
MANMFN	Ministry of Agriculture, Nature Management and Fisheries of the Netherlands
MLC	Meat and Livestock Commission
MMB	Milk Marketing Board
NAAS	National Agricultural Advisory Service, England and Wales
NAO	National Audit Office, Great Britain Government
ODW	Organisation Development Workshop
OECD	Organisation for Economic Cooperation and Development
OEEC	Organisation for European Economic Cooperation
RSPB	The Royal Society for Protection of Birds
SAC	Scottish Agricultural College
SOAFD	Scottish Office Agriculture and Fisheries Department
USCIA	The United States Central Intelligence Agency

1. INTRODUCTION AND GENERAL BACKGROUND

1.1. Research Problem and Objectives of Study

The evolution of the phenomena of education and information delivery as a distinct function in a community can be followed through all eras of the human society. It has evolved alongside the deepening division of labour and the trend to specialisation.

In the more primitive societies the knowledge and practices were passed on from one generation to another, from grandfathers to fathers and from fathers to sons, each generation making its own observations and adding to the body of knowledge. Such transfer of knowledge and technology took place within the institution of the extended family.

With the emergence of schools and universities with teachers, academics and scientists the learning process became another specialised human activity that has been institutionalised. Learning then went through its own division of labour. Specialisation resulted in the establishment of institutions such as primary schools, secondary schools, universities, fundamental and applied research institutes etc.

Agricultural extension and advisory work emerged, first, as one of the functions in educational institutions (agricultural schools) attempting to popularise education and research findings. It developed from scattered one-off activities of progressive scholars into national extension institutions and in many cases further into advisory organisations specialised in a particular field of knowledge. Today, agricultural extension and advisory work is preformed by a complex of institutions of differing natures and with different objectives. It has become an industry in its own rights.

The institutionalisation of agricultural extension has taken numerous forms in both public and private sectors. Commonly, much attention has been paid to public sector extension by those studying and writing about extension, but recently it has been emphasised that extension has to be viewed as being provided by a complex set of institutions in a society rather than by a single public national extension organisation (Rivera and Gustafson, 1991b; Röling, 1988).

This study is concerned with the development of national complexes of extension institutions in this century, mainly after the Second World War, and is geographically limited to industrialised countries in Europe. The study is seeking to determine if any implications arise from the Western European experience for the institutional development of agricultural advisory work in the Republic of Estonia. The emphasis was placed specifically on Estonia as it is the country where the author has been working on problems of Rural Extension at the Institute of Rural Development for several years.

In Estonia, as in most Central and Eastern European countries, the large scale cooperative and state farming system is being reorganised into a system of much smaller scale units based on private ownership of land. National agricultural policy is being reconsidered as the economic and administrative links of the country have changed. With the reorganisations, the number of agricultural enterprises will increase significantly and many people will find themselves in a position where they have to make business management and production decisions often in areas where they have little expertise. Together with the agricultural reform the channels of information delivery are changing. New extension services are being developed to facilitate the changes, but the question remains - what is the most appropriate institutional arrangement. Often the policy-makers turn to the experience in the industrialised countries of the West in their search for answers.

The overall goal of this research is twofold:

(1) to improve the understanding about how national complexes of agricultural extension institutions change in relation to changes in agricultural policy and the position of agriculture; and

(2) to identify, on the basis of this understanding, implications for development of agricultural extension institutions in Estonia

The above goals have been expressed in more specific terms by outlining a number of working objectives in Section 3.1.

1.2. Layout of the Thesis

The thesis is divided into eight Chapters and a part containing appendices. The text contains four levels of headings that are either numbered or unnumbered. The numbered parts are referred to as Chapters (first level numbering) and Sections (second and third level numbering) and appear in the list of contents. The Sub-Sections are not numbered and therefore are not included in the list of contents.

The different Chapters of the thesis are linked in the following way:

- Chapters 1 and 2 provide a general theoretical background to the study;

- Chapter 3 presents the approach and the objectives of the study as well as provides an overview of sources of data and the ways in which the data were collected;

- Chapter 4 contains the information, that has been collected about the development of public and private advisory services in Great Britain in addition to a description of how the position of agriculture and agricultural policies developed in the country.

  Chapter 4, together with Chapters 1 and 2, provide the background to the Conceptual Framework elaborated in Chapter 5;

- Chapter 5 presents the Conceptual Framework relating the developments in Extension Complexes to changes in the orientation of agricultural policy and industry. The Framework is validated in Chapter 6 through adoption of three European case studies;

- Chapter 7 first describes the situation in Estonian agriculture and the origins of the Extension Complex in Estonia and then proceeds to identify the implications of this study for the development of the Extension Complex in Estonia;

- Chapter 8 contains the summary and draws overall conclusions to the study.

1.3. Background

1.3.1. Introduction

Section 1.3 aims to provide a general background to the problems of institutional evolution of agricultural extension, addressed in this thesis. To do this, the Sections that follow the introduction will:

(1) outline a brief historic perspective on the emergence and institutionalisation of extension;

(2) emphasise the fact that a number of extension institutions operate in parallel within the boundaries of individual countries;

(3) present some views on the diversity of existing extension arrangements.

The last two Sections of Chapter 1 will review the role of extension in the light of two perspectives

(1) extension among other factors that have effect on rural and agricultural development; and

(2) extension within the knowledge and information system.

Rivera (1991) has emphasised that the increasing number of extension organisations and the length of time that extension has been carried out as an institutionalised human activity have created a body of experience and knowledge. The body has accumulated a large number of descriptions of extension work from different countries as well as in depth studies of particular aspects of extension work. The growing body of concrete knowledge is beginning to provide a basis for developing theories and increasingly broad generalisations in the field of extension. Recently the term "extension science" has been used. Röling has described Extension Science as (1988, p. 20):

> *"... the body of knowledge which accumulates experience and research findings with respect to extension, and borrows insights from other disciplines and fields of endeavour which seem pertinent to extension"*

The subject of extension has a large number of aspects and perspectives in which it can be studied. The review in the following Sections will be limited to issues and perspectives that are most relevant to the main field of the present study - institutional development of agricultural extension. Thus very little attention is paid to the extensive research concerning issues such as communication processes in

extension work, functions of extensionists, agent-client interfaces, issues of extension programme development, management and evaluation etc. This does not imply that the latter are of less importance.

1.3.2. Origins and Institutionalisation of Agricultural Extension

Jones (1981) has shown that the origins of organised extension work can be traced back to the middle of the nineteenth century when instructors and lecturers became appointed to work with peasants. In France, the first itinerant teachers of agriculture were appointed at the departmental level in the 1830's and 1840's; in Germany the system of "wandering" agricultural lecturers started in the 1850's and had a strong influence on the extension work in neighbouring countries; in Ireland an attempt was made to reduce the danger of further potato famine by appointing travelling "lecturers" or "instructors" for a period from 1847 to 1851; in Britain the itinerant lecturers were established at county level in the last decade of the nineteenth century.

The institutionalisation of agricultural extension work has taken place mainly in the course of the twentieth century (Axinn and Thorat, 1972; Rivera, 1991; FAO, 1990; FAO, 1991). Extension work that had been carried out under the auspices of various agriculture related organisations and societies became arranged into more structured organisations specifically set up for the purpose of providing advice and information to farmers. Some dates of establishment of the first public national advisory organisations are presented in Table 1.1.

Many of the extension organisations have, since their establishment, been reorganised several times, their structure and functions and even names have changed significantly. The survey of 207 extension institutions in 113 countries carried out by FAO during 1988/89, shows that 50 per cent of the surveyed organisations, in their current form, have been established during the last two decades (FAO, 1990; FAO, 1991; Rivera, 1991). This is illustrated in Table 1.2. The authors of the survey by FAO (1990) emphasise that the majority of organisations that responded to the survey were governmental institutions (86 %) and therefore the private sector organisations (e.g. commodity organisations) are underrepresented.

Table 1.1. Year of Origin of National Agricultural Extension Systems in Selected Countries

Country	Year of Origin
Japan	1893
The United States	1914
The United Kingdom	1946
Israel	1948
India	1952
Pakistan	1952
The United Arab Republic	1953
The Netherlands	1953
Nigeria	1954
Taiwan	1955
Brazil	1956
Belgium	1957

Source: Axinn and Thorat (1972) and OEEC (1957) cited in Rivera (1991)

Table 1.2. Number of Extension Organisations Established by Decade

Decade established	Number	Per cent
Before 1910	14	7
1910-1919	6	3
1920-1929	8	4
1930-1939	5	2
1940-1949	15	8
1950-1959	20	10
1960-1969	31	16
1970-1979	50	25
1980-1989	49	25
Total	198	100
N missing	9	

Source: FAO (1990)

1.3.3. The Concept of Extension Complexes

The vast majority of publications about extension are concerned with various aspects of extension work carried out by public national organisations. Little is written about private extension institutions in detail although private sector organisations have for decades provided advice to farmers in parallel with the public sector extension systems (OECD, 1969; MAFF, 1979; FAO, 1990). This lack of material can be explained by the difficulties that exist in obtaining information about the private organisations. The advisory operations of private sector organisations are smaller in comparison with national advisory services and as there is a large number of such organisations it is more difficult to target information gathering activities than in the case of public national organisations. Nevertheless, it has become increasingly acknowledged (e.g. Rivera, 1988 and 1991; NAO, 1991) that within individual countries a number of public and private extension institutions coexist.

The fact that agricultural extension within countries is provided by an increasingly diverse complex of institutions as opposed to a single national extension system has been addressed in a book, edited by Rivera and Gustafson (1991a). In the concluding chapter of the book, which contains a number of contributions on co-existence and cooperation of multiple private and public extension providers in different countries, the editors introduce the term agricultural Extension Complex. This term will be used throughout the present research to refer to the complex set of institutions within countries that provide advisory services to agricultural producers and to other members of rural communities.

It has been emphasised that the different elements of the Extension Complex should be seen as complementary components rather than simply competitors (Rivera and Gustafson, 1991). The purposes, programme goals, programme content and methods vary between the elements being determined by the larger system in which they operate (Rivera, 1989) which does not exclude either competitive or complementary relationships between different elements of the Extension Complex.

1.3.4. Diversity of Extension Institutions

As already indicated above, the number of extension organisations has been increasing in the world during this century. It has been recognised that complexes of extension institutions have developed within individual countries which differ to a great extent from country to country. A number of comparative studies have been carried out in the field of extension that have clarified the diversity by extracting characteristics of extension systems and classifying the different arrangements according to various criteria. This Section will review some outcomes of such studies.

Perhaps one of the first comparative studies of its kind is a book by Axinn and Thorat (1972) which aimed at outlining and comparing the similarities and differences between the national extension arrangements in different countries in order to extract generalisations that might be applicable anywhere and at any time. The material about agricultural extension work and organisations, collected in the 1960's, is presented for twelve countries: India, the United Kingdom, Japan, Israel, Denmark, Taiwan, The United States, Brazil, The United Arab Republic, Australia, Pakistan and Nigeria. The study was concerned with public (or in some cases publicly supported) national extension organisations in these countries.

The conditions in the selected countries were diverse in terms of geography, climate, history, culture, type of farming and the level of development. When drawing conclusions to their work the authors state (Axinn and Thorat, 1972, p. 188):

> *"The comparisons ... were made in an effort to separate characteristics of one particular national or provincial extension system from the broader generalisations that might apply throughout the world.*
> *The authors do not claim to have achieved any such universal truths..."*

Nevertheless, they reached a number of "*principles of human behaviour related to agricultural extension*" that are "*useful as aids for thinking and guides to action*". These principles were mainly concerned with the functioning of extension: with the criteria of success for extension programmes, the agent's role and the process of communication. Axinn and Thorat summarise their comparisons by writing that regardless of the great differences between the situations in which the studied extension systems operate there appear to be more similarities than differences

between them. They conclude that extension systems vary more in form than in function.

It should be noted that such a conclusion is based on the study of national public (publicly supported) extension systems. Therefore the conclusion should be rephrased to emphasise that public national extension systems vary more in form than in function.

The differences between extension organisations have been addressed by many authors and have resulted in a number of typologies and classifications being developed. The works of Professor W. M. Rivera, which build upon other authors, have brought together several perspectives that help to clarify and build an understanding of the differences between extension organisations. These perspectives will be presented here as they illustrate a number of factors that are linked to particular institutional arrangements for extension.

1. Rivera (1988) has distinguished three orientations of extension that are used simultaneously in discussions and that can be present within the same extension system. The distinction is based on issues and audiences that are addressed by extension:

(i) Agricultural Performance - oriented towards improving agricultural production;

(ii) Rural Community Development - oriented towards developing agricultural and non-agricultural activities in rural communities;

(iii) Comprehensive Non-Formal Continuing and Community Education - emphasis on provision of Non-Formal further education to audiences that include strictly agricultural, rural non-agricultural and agriculture-related urban audiences.

2. Rivera (1989), having reviewed the classifications of extension approaches provided by Lele (1975), Oxenham and Chambers (1978), Orivel (1981), Ray (1985), Pickering (1987) and Weidemann (1987), distilled four extension system approaches:

(i) top-down delivery services, where farmers can accept the extension deliverables or leave them aside;

(ii) participatory-aquisition system, where farmers can influence/control the extension programmes;

(iii) contract farming system, where farmers must perform according to the suggestions of extension or loose their contract;

(iv) rural development/extension, which has a number of wider non-agricultural goals in addition to agricultural production related objectives and therefore takes a different approach.

3. Rivera (1988 *op cit*) presents a framework in which he links the above extension approaches to four groups of institutional arrangements for extension, see Figure 1.1: (i) public, (ii) dual, (iii) coordinated and (iv) private distinguishing three further sub-groups for the latter: (a) for profit, (b) membership and (c) non-profit.

4. Rivera (1988, *op cit*) also suggests a link between the types of extension arrangements and the different needs of different target groups of extension. He has illustrated this, as shown in Figure 1.2, by grouping extension arrangements according to the different needs of four types of farms: (i) large farms, (ii) middle-size farms, (iii) small farms, (iv) subsistence farms.

Figure 1.1.
National Extension Arrangements, System Approaches and Their Relationships with Farmers

National Arrangement	*System Approaches*	*Relationships with Farmers*
PUBLIC 1. Ministry of Agriculture (field services)	DELIVERY SERVICE (Non-compulsory) Arrangement 1	Take it or leave it
DUAL 2. Ministry of Agriculture and Farmers Associations (dual control over extension services)	PARTICIPATORY (Shared Responsibility) Arrangements 2, 4(b) & 4(c)	Take it or demand new package or program
COORDINATED 3. Ministry of Agriculture (parastatal). May be public or private.		
PRIVATE 4(a) For Profit - Domestic Enterprises - Cooperatives - Multinational Enterprises 4(b) Membership - Farm Associations 4(c) Non-Profit - Non-Government Organisations	CONTRACT FARMING (Compulsory) Arrangements 3 & 4(a)	Take it or else

Source: Rivera (1988)

Figure 1.2. Types of Farms, Needs on Such Farms, and Appropriate Extension Arrangements

Types of Farms	**Needs**	**Arrangements**
1. Large farms	High Tech	Commodity boards/ Private extension/ Public cost recovery
2. Middle-size farms	High tech/ Farm management/ Processing management	Private extension/ Public extension with eventual cost recovery
3. Small farms	Needs assessment/ Low tech/ Farm management/ Organization skills	Public extension services/ Coops/ Farmer associations
4. Subsistence farms	Needs assessment/ Low tech/ Organization skills	Public extension services

Source: Rivera (1988), Rivera and Gustafson (1991)

5. A matrix developed by Gupta (1987) as cited in Rivera (1988, 1991) is suggesting a way of analysing extension arrangements in relation to ecological conditions as illustrated in Figure 1.3. This perspective implies that natural conditions have influence over the choice of an extension arrangement.

Figure 1.3. Matrix Linking Production Potential in Terms of Yield and Risk to the Type of Extension Arrangement.

	STABILITY Low risk	VARIABILITY High risk
Low Yield	Rainfed *Public systems*	Ecologically disadvantaged *Public System* (Multi-sectoral)
High Yield	Irrigated (Strong market forces) *Private* &/or *Public* (with cost recovery)	High-Yield Varieties Processing: *Cooperatives/Farmer Associations*

Source: Gupta (1987) cited in Rivera (1988)

In summary, at least five important distinctions have to be borne in mind in discussions about extension institutions:

- extension institutions can be oriented to addressing issues of different natures;
- extension institutions can have different relationships to their target audience;
- extension can be controlled by different parties with different motives;
- groups of farmers have needs of differing natures that can be addressed by different types of extension organisations;
- the appropriateness of any extension approach, orientation and institutional arrangement is affected by location specific ecological and economic factors.

1.3.5. Extension as a Component in the Development Mix

Whilst concentrating the discussion on the issues of extension, including the institutional development of extension, it should not be forgotten that extension can be viewed from a number of different perspectives. One such perspective is that of those concerned with regional or rural development in its entirety. In this perspective, extension is only one element in the highly complex mix of factors - sometimes called "development mix" - that influence the development process in agriculture and in rural areas.

Röling (1988, 1989) has emphasised that extension will only start making a significant contribution to agricultural development when the essential elements of the mix are favourable. For example, if a shortage of production resources exists or if markets are not available or if prices are not remunerative there is little that extension can do alone to achieve improvements in production.

In the case of rural development the role of extension is more complicated as more dimensions are included. Kötter (1974) has outlined a typology of factors that have to be taken into account in discussions about integrated rural development. This typology is set out below to illustrate the complexity of factors that are important and also in order to provide a background to the discussions about extension:

Natural resources
- agricultural
- non-agricultural

Human resources
- quantitative
- qualitative

Pattern of social organisation
- values
- social stratification and mobility
- power structure
- land tenure system

Economic structure
- agricultural production structures
- agricultural industries
- other industries
- market relations

Technology
- agricultural
- non-agricultural

Infrastructure
- physical infrastructure
- transport and communications
- social infrastructure
- spatial order

Institutions and organisations
- administrative structure
- peoples organisations

Services
- marketing
- credit
- extension

Education and training
- formal
- informal

The development mix has twofold relevance to the discussion on extension:

- on the one hand, such typology helps understanding of the limitations and scope of extension as a single factor in bringing along development in rural communities;

- on the other hand, the specific characteristics of the factors in the above typology are specific to the nation, region and culture within which they exist and therefore the typology helps understanding of the scope (or the lack of scope) for transferring institutional arrangements from one situation to another with a different development mix.

1.3.6. Extension in the Agricultural Knowledge and Information System Perspective

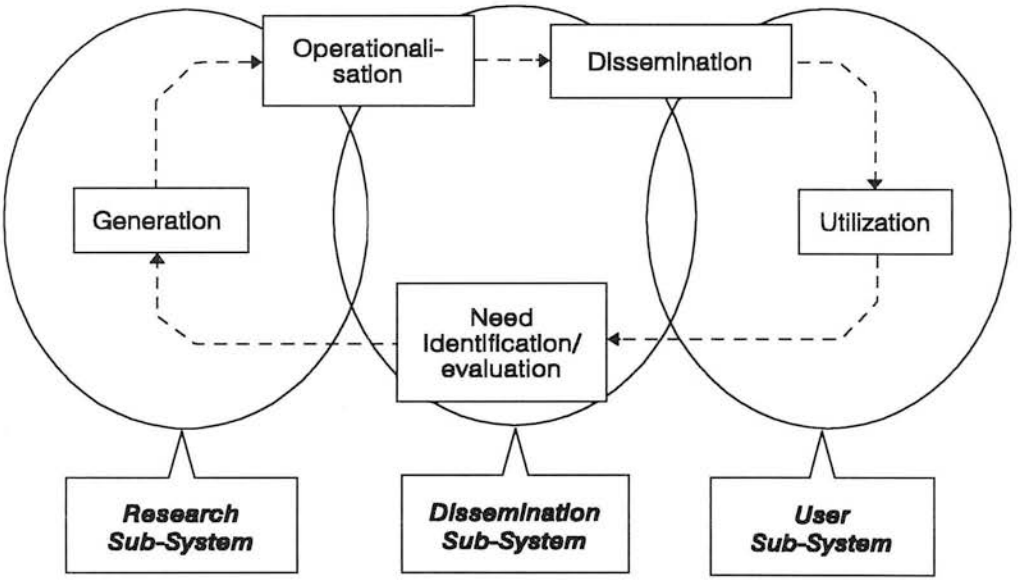
Another broad view enabling observation of a different set of extension linkages is provided by the concept of Agricultural Knowledge and Information System (AKIS). The AKIS concept looks at extension from the perspective of the process of knowledge generation, handling and application, integrating all actors and processes into a system. The concept of AKIS has been elaborated by Röling on the basis of the research of many other authors (Röling, 1988, 1990; Röling and Engel, 1991) and has been defined (Röling and Engel, 1991) as:

"the set of organisations and/or persons, and the links and interactions between them that are engaged in, or manage such processes as the anticipation, generation, transformation, transmission, storage, retrieval, integration, diffusion and utilization of agricultural knowledge and information, which potentially work synergically to support decision making, problem solving, and innovation in agriculture or a domain thereof."

Figure 1.4 illustrates a simple model of AKIS as developed by Röling (1988), where the processes involved in the cycle of knowledge generation and application are shown in relation to the sub-systems that are specifically performing particular activities within such a cycle. It should be noted however, that similar full cycles of knowledge generation and application take place within each of the sub-systems (Jones, 1990; Röling and Engel, 1991) although on a different scale and with an orientation specific to the sub-system concerned.

Figure 1.4.

Functions and Elements of an Agricultural Information and Knowledge System



Source: Röling (1988) p. 202 after Nagel (1980)

In terms of the AKIS model, as presented in Figure 1.4, the present study is concerned with only that part of the dissemination sub-system that is institutionalised into extension/advisory organisations. The study is limited to investigating the development of institutional arrangements within national dissemination sub-systems in relation to changes in the national and private interests with regard to agriculture.

2. UNDERLYING CONSIDERATIONS

2.1. Groups of Institutions in a Society with Interest in Agricultural Extension

As discussed in Section 1.3.3, agricultural advice is provided by a variety of institutions in a society. The reasons why these institutions have developed advisory services can be found by examining their relationship towards agriculture and rural communities. For the purpose of analysing the institutional evolution of the Extension Complex, the different institutions, involved in providing advice, can be grouped on the basis of their interest towards agriculture and rural communities. One possible way of grouping the institutions according to their interests is presented in Figure 2.1. The groups include:

- the government and local authorities
- farmers
- processors of agricultural produce
- suppliers of various inputs and services for agricultural production
- independent consultants

Each of these groups of institutions has distinct motives for being involved in extension work as will be shown below:

The first group, the *national government* and the *local authorities*, address the farming community and the rural population with wider societal interests in mind although farmers' interests are also mentioned. The nature of extension programmes conducted by government depends on the issues of public concern either at the local or national level.

Farmers form a special group in the sense that they may employ extension workers or consultants in their own interest either directly or through their own political or economic organisations such as associations or cooperatives in addition to using the services of Government extension agencies.

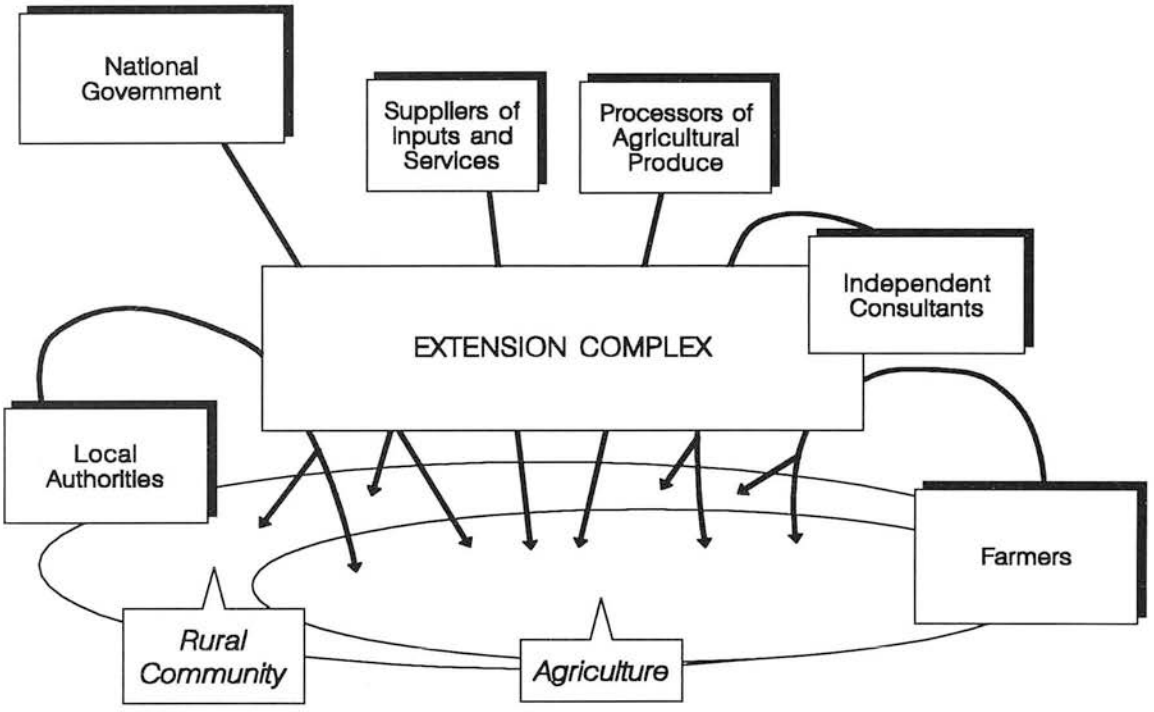
The *processing industry* directs advisory efforts to the farmers to ensure a stable supply of appropriate quality of the commodities purchased from agriculture. In this case, the advisory work is carried out in the interests of increased profits and

competitiveness of the industry itself, but again the parallel goal of achieving farmers' interests is stated.

The *suppliers of inputs and services* are a group similar to the processing industry. Here, the motive is to advise the farmers on how to best use the services and inputs they provide and thus hopefully to increase their sales, attract more customers and thus increase their share of the market.

Figure 2.1.

Groups of Institutions with Potential Interest in Agricultural Extension



The *independent consultants*, i.e. businesses or sole entrepreneurs that provide advisory and information services as a main line of business, form a specific group. They could be viewed as belonging to the group of suppliers of inputs and services but they have a specific relationship to the advisory work they perform. Their work is not intentionally supportive to other activities as is the case with processors of farm produce and suppliers of inputs/services. The independent consultants derive their income solely from advisory work and their main interest is to sell good quality advice, relevant to the needs of farmer clients, and thus maximise their own profits. For this reason the group of independent consultants is shown in Figure 2.1 as being partly within the Extension Complex and not outside as with other groups,

for which the provision of advice is an activity supporting the achievement of their other interests.

Another group, although not shown in Figure 2.1, with professional interest in having effective extension services are the research organisations. This group is not shown on the Figure as it is viewed as being a part of the Research Sub-System, see Figure 1.4, and does not normally set up extension institutions. However, research organisations are vitally interested in disseminating the results of their work and in obtaining relevant feedback. Therefore, when the existing arrangements in the Dissemination Sub-System do not satisfactorily carry out these functions, research organisations develop extension arrangements of their own.

The interests of different groups can be of fundamentally different natures, for example broad societal interests (such as concern about sufficient supplies of food, overall economic development, improvement of the viability of communities or protection of environment) or private economic interests (such as economic gain of individuals or small groups from increased production or sales).

All the groups can operationalise their interests in various institutional arrangements some types of which have been referred to in Section 1.3.4. The above distinction between interest groups is of an abstract nature and serves the needs of analysis. In reality, the different groups often combine their interests in one institution, e.g. arrangements where farmers' associations have government support for running extension services or where farmers set up cooperatives for providing services for themselves, such as marketing, processing, input supply etc.

The interests of different institutions can change over time depending on developments in the agricultural, economic and social situations. As a result, the institutions which earlier had similar interests may develop conflicting interests that in turn may lead to change in the institutional arrangements for extension. In other words, the structure of the Extension Complex may change over time, i.e. new types of elements may be added or may replace existing elements.

2.2. Factors Influencing the Institutional Structure of a National Extension Complex

2.2.1. General

The configuration of a national complex of extension institutions and the nature of programmes that the elements of the Complex are undertaking are influenced by a variety of factors. Agglomeration of the influence of the different factors results in the uniqueness of the situation within which the Extension Complex operates as well as in the uniqueness of the Extension Complex itself. This uniqueness of situations and extension arrangements has been emphasised both by scholars (Rivera, 1990) and institutions involved in developing extension arrangements (The World Bank, 1990)

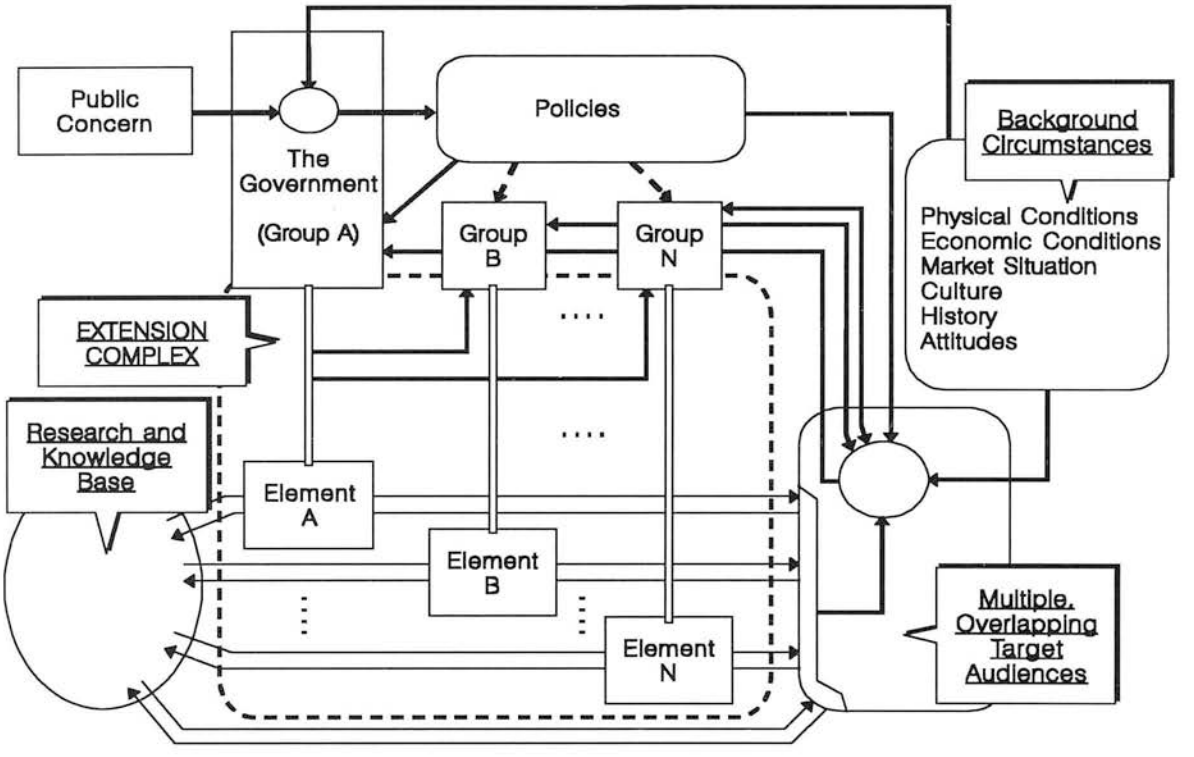
To understand how national Extension Complexes develop it is important to clarify the factors that could potentially affect various parts of the Complex and their mechanisms of influence. To enable such clarifications to be made, the main linkages affecting the institutional structure of the Extension Complex are outlined in Figure 2.2. Figure 2.2 builds partly upon Figure 1.4, that illustrated the Agricultural Knowledge and Information System perspective, and partly upon Figure 2.1.

In Figure 2.2, the presentation of the Agricultural Knowledge and Information System, shown in Figure 1.4, has been adjusted to emphasise aspects important for the discussion on the institutional structure of the Extension Complex:

- the Research and Knowledge Base represents the outcome of the activities of the research sub-system (see Figure 1.4) and also includes other knowledge and information which is used and communicated by the elements of the Extension Complex to various audiences;
- the Extension Complex is shown within the dotted line boundary as consisting of a number of Elements, each of which creates and maintains a cycle of AKIS processes between the users and the research and knowledge base (see Figure 1.4). The AKIS processes are shown in Figure 2.2 as sets of thin arrows drawn behind the symbols of different Elements. It should be noted, that in some cases the whole continuum of AKIS processes can be managed by the same institution in order to avoid administrative gaps (Röling, 1989);

- the Extension Complex represents only a part of the dissemination sub-system (see Figure 1.4) as the functions of the dissemination sub-system are also carried out by other institutions, for example in educational organisations. The fact that there are other channels, that are not discussed here, is illustrated in Figure 2.2 with a set of arrows outside the boundary of the Extension Complex;

Figure 2.2.
Main Factors Influencing the Institutional Structure of an Extension Complex



- each Element of the Extension Complex is controlled by an institution or a number of institutions, large or small, which have an interest in relation to a target audience and have become involved in advisory work in order to influence this audience in their own interests. Such institutions can be grouped according to their interests as was done in Section 2.1. For reasons of graphical clarity the different institutions within each such group have been represented by a single symbol labelled Group A, B, ... , N and linked to a single element of the Extension Complex (labelled Element A, B, ... , N respectively). The following possibilities, that cannot be seen in Figure 2.2 as a result of the simplifications, must be emphasised: (1) some of the groups of controlling institutions/organisations may consist of only one institution (e.g. Government) and some of the controlling institutions may contain only one individual (e.g. individual independent

consultant), (2) some elements of the Extension Complex may be controlled by several institutions/individuals belonging to groups with different interests (e.g. agricultural producers and the government in a national advisory service, agricultural producers and the processors of farm produce in a cooperative);

- the Target Audiences are viewed as being addressed by the various groups of institutions that control the elements of the Extension Complex. The target audiences of different groups can considerably overlap (Jones, 1989) and the institutions within any one group may target a number of different audiences that also may overlap. Again, for graphical reasons, the multiple and overlapping target audiences are shown with only one symbol in Figure 2.2.

The establishment, expansion, reduction, termination or other changes in any element of the Extension Complex are decided within the institution that controls the element. In general terms, such decisions are based on the interests of the institution on the one hand and on the parameters of the environment in which the institution and the target audience operate as well as on the characteristics of the target audience on the other hand. The environment can be viewed as consisting of two interlinked parts: (1) the policies pursued by the Government that affect the target audiences as well as the different institutions with potential interest in advisory work and (2) a number of background circumstances, such as physical and economic conditions, market situation, culture, traditions and history.

The government has a dual role in influencing the structure of the Extension Complex. It usually directly controls an element (or a number of elements) in the Extension Complex and it is also the institution in a country that makes the policies that affect the target audiences and other institutions controlling the remaining elements of the Extension Complex. The way in which government controlled elements of the Extension Complex are financed (publicly or commercially) and run has a strong influence on the structure of the Extension Complex (Figure 2.2): it affects the scope that other institutions in the society have for establishing advisory operations.

Various factors affecting the structure of an Extension Complex and the linkages between them will be further discussed in the remaining Sections of this Chapter, each of which elaborates around one of the following aspects:

- the policies
- the background circumstances

- the characteristics of the target audiences
- the impact of general scientific progress

2.2.2. Target Audiences

It is one of the fundamental truths in extension that the extension activities can only be effective if they are relevant to the needs of the target audiences (Röling, 1988). Therefore, the traits of the target audiences play a major role in forming the structure of the Extension Complex. The needs and opportunities of the target audiences, shaped by the policies of the government and background conditions, are communicated to the institutions in control of various elements of the Extension Complex. If the target audiences or their needs change, then the elements and/or their activities must be changed accordingly in order to remain relevant to the audiences and continue to fulfil their purpose, for the institutions controlling them, of influencing the audiences.

The types of activities carried out with the total potential target audience determine the structure of potential interests oriented to different segments of the audience. The size of each segment of the audience sets the limits for the scope of extension activities that can be carried out by institution(s) with similar interests towards such audience. For instance, the number of milk producers in a region is one of the factors limiting the number of advisers that can be usefully employed by companies with an interest in purchasing/processing milk.

In addition to the types and the sizes of the audiences, the levels of education and/or literacy play a major role in determining the type and content of the extension messages and the ways in which these messages can be communicated. The audiences with good self learning skills and high motivation can be just directed towards information that they will then acquire, needing only occasional support. On the other hand, in a situation where the target audience has a low level of education or is even illiterate, extension has to carry out much more basic explanatory work and has to deploy different approaches and methods.

The approach and the relevance of the message depends also on whether the farm enterprise is small or large, whether the enterprise is agricultural or mixed with

non-agricultural activities and in the case of the farm enterprise on whether the farm is subsistence or commercial, mixed or specialised.

2.2.3. Policies

Various policies are developed by governments that affect social and economic life in a society. Government policies reflect the interests of a society with regard to the activities of a target audience: for example, agricultural policies reflect the way in which society wishes to influence agricultural reality. Policies that affect agriculture are not only agricultural or economic in nature, but also environmental and social, reflecting the concern of the society (or a group in the society that has political influence over the government) about a particular issue, e.g. economic growth, sufficient food supplies, rural depopulation, pollution, preservation of endangered species etc.

The policies are developed by governments taking into account, as shown in Figure 2.2, (1) the issues of public concern, (2) the reality of target audiences and (3) general physical, economic and social background that is specific to the nation. The means and measures of agricultural policies are strongly influenced by the importance of agriculture to the nation, which can be depicted through various indicators characterising economic, social, strategic, and environmental reasons for valuing agriculture, listed in Section 2.2.4. The importance of agriculture together with the political influence of agricultural and agriculture-related producers determine the extent of government attention that is paid to agricultural problems and the amount of support that can be afforded for agriculture.

Agricultural policy, and also general economic policy, trade policy and environmental policy shape the conditions in which agricultural production as well as other rural activities take place. Such policies affect the profitability of various farm enterprises by providing or not providing subsidies and/or grants for production or exports. The policies may also protect producers from foreign and domestic competition and instability by means of imposing regulated prices, trade restrictions and production quotas. These and other policy measures thus influence the activities and opportunities of target audiences.

The effects of policies and changes in the background circumstances are reflected in the changes in performance of agricultural enterprises and in the developments of the structure of production. The effects that the policies and the changing circumstances have on the producers are also felt by the various institutions that have already set up advisory services or may do so. There is usually a flow of goods and services in one way and payments in the opposite direction between the producers and the groups of such institutions. As the agricultural producers adapt to changing circumstances and policies the two-way flows change. Such changes influence the interested institutions which may decide to bring about changes in their advisory activities.

Governments use public agricultural advisory services to facilitate the achievement of agriculture related policy objectives. This is done by communicating information to the target audiences of the policies in order to help the audiences to understand and adapt to the conditions created by the policies and other changing background factors, in other words, to help the farmers to solve their problems (Röling and Engel, 1991). A direct influence can thus be seen from policy objectives to the activities of government controlled advisory services.

In many cases public extension is viewed as an instrument of government policy (Jones, 1989; Röling, 1989). This study covers not only public extension but the whole complex of extension institutions and in this context public extension has a dual role. On the one hand, public advisory services can be viewed as an element of the Extension Complex that is, amongst other elements, affected by government policies. On the other hand, the public advisory services, as a policy instrument, affect the structure of the Extension Complex and opportunities open to other elements of the Complex by the mere fact of being present and publicly funded (Figure 2.2). Thus public advisory services can have and do have direct influence on the entire Extension Complex.

2.2.4. Background Circumstances

General

It is useful to distinguish between two types of background circumstances that can influence the institutional structure of the Extension Complex:

(1) those that have a location-specific character and do not change considerably in short time spells (i.e. in decades within the context of this study). These include physical conditions in a location, the culture and the history of the region or the nation concerned;

(2) those that can be either location specific or global, but are affected by various developments and therefore may change in time. Such circumstances include local and international market situations and the economic conditions in a country.

The former limit the extent to which the arrangements in the Extension Complex may change and have influence on the path that the developments may take. This study is specifically concerned with changes in the Extension Complexes that are triggered by the latter but the former need to be mentioned because of the restrictions that they present to the development and transfer of experience to locations with different circumstances.

The background circumstances have their effect on the structure of the Extension Complex through two main channels:

(1) through the target audiences, by determining and altering the conditions, directly and via government policies, in which the audiences operate as shown in Figure 2.2; and

(2) through the values and attitudes of all actors in the society including policy makers, target audiences, decision makers in the institutions controlling the elements of the Extension Complex etc.

In the following two Sub-Sections the two different types of background circumstances are outlined in somewhat greater detail, with more attention being paid to the location-specific factors as the factors that can change will receive attention throughout the thesis.

Location Specific Circumstances

Physical conditions, such as soil, climate, altitude etc, determine the farm (land related) enterprises that could potentially be practised in a region. Thus, the physical conditions limit the activities of the agricultural population and therefore the number of different interests that can be exercised in relation to agricultural production. For instance, the institutions with an interest in processing/purchasing specific agricultural commodities can only be involved in advisory activities in locations where such commodities can be produced. Input supplies are similarly linked to the profile of farm enterprises. A link between the ecological and economic risk factors on farms and the types of extension arrangements has also been proposed by Gupta (1987) as already mentioned in Section 1.3.4 (shown in Figure 1.3 above).

Cultural and social values, attitudes, norms and traditions as well as events in the past have had the biggest influence on public sector extension arrangements. Whilst in some countries the public interest in extension has been institutionalised as a governmental organisation under the Ministry of Agriculture (England and Wales, Southern Germany, France before 1959), in some other countries the services were developed with the support of public funds on the basis of existing institutional structures: farmers' organisations (Denmark, Finland) parastatal organisations such as boards of agriculture (Northern Germany, Sweden) educational institutions (Scotland, the United States). In the Netherlands, religious and historic factors become explicit in the development of three different socio-economic advisory services by different groups of farmers unions (the unions being protestant, catholic and "neutral").

Also, the influence of other countries can be viewed as a nation (location) specific historical factor that can shape extension institutions. This can be illustrated, for instance, with the French colonial influence, which has resulted in distinct arrangements for extension in the country's former colonies in West Africa, as noted by Rivera (1988). German influence on extension arrangements of its neighbouring countries (mainly German speaking) has already been referred to above. An example of different historic external influence is the effect that "model" systems, such as the US Cooperative Extension System or the Training and Visit

System developed by the World Bank, have had on extension arrangements in developing countries.

Circumstances that Change

In Section 2.2.2, the importance of agriculture to the nation was mentioned as a major determinant of agricultural policies. Many of the factors determining the role of agriculture for a nation can change significantly over time. A set of indicators covering the economic conditions, the structure of the economy, trade patterns, the market situation and demographic conditions is set out below and can be used for monitoring the changes in the circumstances surrounding the actors related to the Extension Complex:

- agriculture's share in gross domestic product;
- the role of agriculture in foreign trade: exports, imports and balance of trade;
- agriculture's role in providing employment;
- percentage of rural population in total;
- self-sufficiency of food supplies in conjunction with security of overseas food supplies and possibility of over-production;
- the prices of farm inputs and farm produce on the world market.

2.2.5. The Impact of General Scientific Progress

The overall progress in research and technology can have an impact on the Extension Complex in two ways - first, by changing the messages communicated by the elements of the Complex, and second, by changing the technical means of communication and information processing.

Developments in agricultural research have improved the understanding of the nature of the processes taking place in agricultural production and the developments in engineering and computer technology have made automation and mechanisation possible on farms. As a result, the ways in which things are done on farms have

changed considerably and this has brought along changes in the structure of target audiences of Extension Complexes.

Together, the improvements in agricultural science and information technology have made it possible to perform automatically certain routine functions of agricultural advisory work (Commission, 1989). In turn this has contributed to the changes in the institutional structure of Extension Complexes. Examples include automatic livestock feeding systems, automatic milk recording systems, computerised soil maps with fertiliser suggestions, computer based farm record keeping, financial and farm business management systems. All these have taken over, at least in part, functions previously performed by advisers.

Progress in communications technology and development of appropriate networks make it possible for farmers to obtain advice by telephone or by fax and to use information resident in various computer databases. Also, other sources of electronic information, such as videotex, have become available to various users (Causton, 1989; Harkin, 1989). As a result there have been savings in time and some operations of advisory work have become more efficient leaving more time for other types of activities.

3. METHODOLOGY AND DATA COLLECTION

In this Chapter of the thesis, first the overall goals of this study are broken down to more specific working objectives and the way in which these objectives will be met is outlined in general terms. Then attention is turned to issues of primary data collection: the types of data, the sources of data, and the means of obtaining the necessary information are discussed.

3.1. Research Methodology

3.1.1. Approach and Objectives

The overall goal of this study was identified in Section 1.1 as being twofold:

(1) to improve the understanding about how national complexes of agricultural extension institutions change in relation to changes in agricultural policy and in the position of agriculture; and

(2) to identify, on the basis of this understanding, implications for the development of agricultural extension institutions in Estonia

As can be seen, the emphasis is placed on studying the changes that take place within the Extension Complexes. The reason for such placement of the emphasis is explained as follows:

The physical, economic, cultural and historic nation-specific conditions, discussed in Section 2.2.3, determine a number of specific features of a national Extension Complex. Such conditions, varying from country to country, limit the scope for directly copying extension arrangements from one situation, existing at a certain time in a specific location, to a situation elsewhere and/or at a different time.

An analysis of changes in different Extension Complexes and of their relationship with the changes in the circumstances within which the Complexes and their various target audiences operate is likely to provide a more appropriate vehicle for transferring experience from one country to another. Such analysis, provided that it is carried out in sufficiently general terms, can serve as a basis for

conclusions that may be relevant to the development of strategies and policies with regard to Extension Complexes in third countries.

A number of working sub-objectives were set to achieve the goal:

1. With regard to developing the understanding about changes that take place in Extension Complexes:

(a) to identify, in general terms, the different types of agricultural extension institutions and the nature of their interest in advisory work (as carried out in Chapter 2);

(b) to investigate, in detail, how the advisory activities of the main types of extension institutions have changed in relation to changes in the orientation of agricultural production and policies in one country, specifically in the United Kingdom;

(c) to develop a Conceptual Framework of qualitative changes in Extension Complexes using the detailed investigation of the developments in the United Kingdom (sub-objective 1(b) above) as a background;

2. With regard to validating the developed understanding, expressed in terms of the Conceptual Framework:

(a) to identify major changes in the Extension Complexes of selected countries and to describe them in relation to changes in their operational environment;

(b) to validate the Conceptual Framework (sub-objective 1(c) above) by comparing it to the developments in the selected European countries;

3. With regard to implications for development of extension institutions in Estonia:

(a) to describe the origins and the current situation in Estonian agriculture and its Extension Complex;

(b) to establish the position of the current situation in Estonia in relation to the Conceptual Framework and to identify implications for the development of the institutional complex of advisory organisations in Estonia

Thus, to summarise, there are four phases to the work presented in this thesis:

1. Gaining an insight into the development of Extension Complexes;
2. Elaborating a Conceptual Framework of qualitative changes* in Extension Complexes;
3. Validating the Framework;
4. Identifying implications from the Framework for Estonian Extension Complex.

3.1.2. Selection of Countries

Generally, in selecting the countries for studying the Extension Complexes, it was sought to avoid great dissimilarities in location-specific background circumstances in comparison with the situation in Estonia that would restrict the transfer of experience. Thus, countries with similar physical, cultural and historical background were selected which led to centering the attention on the region of North-Western Europe there being no experience of relevance in the former Eastern European countries.

Great Britain was selected for background study as it was considered that the evolution of her Extension Complex has a good potential for providing diverse insight into the development of different possible public and private extension arrangements in varying policy environment and the position of agriculture in the general economy.

The countries for validation study - Denmark, Finland and the Netherlands - were selected for the following reasons:

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* The term "qualitative changes" is used in relation to the Conceptual Framework to refer to the direction of changes that occur in the evolution of Extension Complexes without providing a functional relationship

Denmark - as a country not distant from Estonia and of similar size, where, as in Estonia, agriculture has traditionally had an important role in the economy and trade. In Denmark, the extension arrangements are under a strong influence from farmers being farmer run.

Finland - as a neighbouring country of Estonia, culturally and ethnically very close to Estonia, that has shared with Estonia similar influences from other neighbouring countries, but with much harsher climatic conditions than in any of the other countries studied.

The Netherlands - for similar reasons to Denmark and because greater diversity of public and private extension arrangements exists.

The three countries provide a sufficiently diverse set of cases in terms of extension arrangements and paths of development to provide a reasonably wide basis for the validation of the Conceptual Framework in the European context. At the same time the location-specific conditions are adequately similar to those in Estonia in order for the validated Framework to remain relevant to the situation in Estonia. It is believed that such selection of the countries provide a set of experiences which is one of the most relevant to the situation in Estonia that can be possibly found in Western Europe. However, in attempting to transfer the experience with extension and agriculture from the countries of the West to those of the former Socialist Block the difference in the political systems of the recent past and consequent agricultural structure should be borne in mind.

3.1.3. The Descriptors of Extension Complexes

In order to be able to follow the changes that take place within the Extension Complex, a set of parameters describing the Complex is required.

In theory, the Extension Complex in its entirety could be characterised with a set of qualitative and quantitative aggregate parameters. Essentially, the aggregate parameters are based on the characteristics of individual elements (i.e. advisory arms of different organisations/institutions) of the Complex. Some examples of such aggregate parameters that could describe an Extension Complex include:

- classifications of the elements in the Complex according to various criteria, e.g. size, ownership, relationship to farmer clients etc.;
- structure of the Complex, i.e. proportion of any particular type in the Complex;
- the size of the Complex (e.g. in terms of the value of investment, number of staff, number of clients, visits etc).

In practice, the aggregate parameters can only be built by integrating the appropriate information about all the individual elements of the Complex. It is an extremely difficult and laborious task to obtain exact "values" for most of such aggregate parameters because of the great diversity of individual elements in the Extension Complex and the lack of readily available information, especially in the case of private sector extension organisations. It was, therefore, decided to concentrate the efforts on studying in greater detail a limited number of elements controlled by the major groups of institutions/organisations that were specified in Section 2.1:

- the public (publicly controlled/funded) advisory services;
- input and service supply organisations;
- organisations concerned with purchasing and processing of farm produce; and
- independent consultancy businesses.

It was decided to characterise each of the selected elements of the Extension Complex with a set of descriptors and then to follow the changes in these descriptors in order to identify major developments within each of the selected elements. Such descriptors include:

- type of institution/organisation that controls the element;
- mechanisms of financing;
- objectives (role, mission);
- type of target audience;
- subject(s) or field(s) on which advice is given;
- methods and approach;
- number of personnel;
- amount of work (either in financial terms or in physical terms e.g. number of visits, number of clients).

This set of descriptors serves as a basis for data collection concerning the elements of the Extension Complex. The ways in which relevant information was obtained and the sources of information are outlined in the following Sections of this Chapter of the thesis.

3.2. Principal Sources and Availability of Information

The information required about the development of Extension Complexes and the background circumstances in the selected countries was drawn from a wide range of sources. Three principal sources can be distinguished:

- undocumented primary information, i.e. information that exists in the extension organisations and in the minds of the people, who have been or who are currently involved in managing the extension institutions;

- documented primary information, i.e. information that is published or otherwise documented by the extension organisations and individuals concerned, for example in the form of reports, memoirs etc.;

- secondary information, i.e. information, research, papers by researchers and other authors.

The primary data collection is discussed in greater detail in Sections 3.3 to 3.4 and in Appendices A to D according to the phase of work (See Section 3.1.1) in which the data were used. The secondary information sources are referred to throughout the thesis.

Specifically, the following means were used to obtain information:

- in-depth personal interviews with senior managerial personnel of the larger elements in the Extension Complexes.
- a mail survey of small independent consultancy businesses and individual consultants in Great Britain;

- a series of interviews and/or written consultations with representatives of various extension organisations in countries selected for validation of the Conceptual Framework developed in Section 5.
- study of official publications of governments and those of internationals organisations regarding public and private sector advice and general development of agriculture and agricultural policies and other background sources;

Data regarding various elements of the Extension Complex has a varied degree of availability. The public sector advisory activities are relatively well documented in official Government reports, in papers and reports to the international conferences held by OEEC, OECD and EEC, and in papers in journals and books concerned with agriculture and agricultural advisory work. There is relatively little published information about the advisory work of private institutions. Therefore, data collection by means of mail surveys and in-depth interviews was undertaken in the case of the private sector, whilst information about public advisory organisations was drawn mainly from published sources and complemented with a small number of in-depth interviews (see Table 3.1) with senior managers of advisory operations.

It has to be clearly expressed that the information collected by means of in-depth interviews and mail survey reflects retrospective views of the respondents about the past developments and cannot be taken as a contemporaneously documented history. Nevertheless, as no alternative sources were identified for comprehensive information about private sector advisory work, such a method provides a unique set of views about the developments that can be accepted as reasonably close to reality bearing in mind that the persons questioned were most intimately involved in the development of the advisory activities of their organisations. Obviously, any conclusions in the study based on the data collected by means of the interviews and mail survey, are subject to the limitations arising from the non-contemporaneous nature of the data and the relatively small samples.

For clarity it will be helpful to distinguish between two broad categories of data characterising the evolution of the Extension Complex - quantitative and qualitative. In the context of this Section, quantitative data refers to numeric data regarding the amount of funding, the number of advisory personnel, amount of work and other similar indicators describing the advisory activities of various organisations. On the

other hand, qualitative data refers to opinions of employees, policy statements, estimations based on experience, judgements and decisions.

Considerable difficulties exist in assembling comprehensive quantitative information about the elements of the Extension Complex. Among the reasons are the following: the large numbers of relatively small operators in private sector extension; the general absence of financial and performance information about private enterprises; the frequent changes in fund allocation procedures for public advisory institutions; and the changes in the format of publishing the information regarding public sector advisory organisations. Therefore, it was decided to concentrate the efforts on collecting qualitative information about the selected elements of the Extension Complex, backing it with quantitative data wherever such data are available.

3.3. Data about Developments in the Extension Complex in Great Britain

The gathering of information about the Extension Complex in Great Britain had two broad objectives: (1) to identify the main elements in the Extension Complex and (2) to identify major changes in the Complex over the period of years following WW II to the present time.

3.3.1. Identification of the Elements of the Extension Complex in Great Britain

To identify the main elements in the British Extension Complex the following sources were used:

- the members of staff and the managment at the Agricultural Development and Advisory Service (ADAS) and at the Scottish Agricultural College (SAC) were contacted to seek information about other providers of advice;
- the sources of advice were discussed with farmers and growers. Also, relevant information about providers of advice, based on a survey of farmers (carried out for the SAC), was made available by the management of the SAC for consultation;

- the identification was furthered and confirmed during the in-depth interviews discussed below;
- local business telephone directories of various years were consulted for entries under the heading of Agricultural and Horticultural Advisers/Consultants.

As a result, the following types of insitutions/organisations were outlined for longitudinal investigation as major providers of advice to farmers in Great Britain :

- publicly funded advisory services;
- livestock feed supply companies;
- companies supplying fertilizers and agrochemicals;
- various statutory and commercial institutions engaged in handling farm produce;
- financial organisations (e.g. banks);
- independent consultants and small advisory businesses.

3.3.2. In-depth Interviews

A series of in-depth interviews, lasting approximately one hour each, were carried out with senior managerial personnel of the larger elements of the Extension Complex in Great Britain. The interviews aimed at obtaining information about the past and current developments in their institutions and the views of the managers on the reasons behind these developments.

A list of potential interviewees was compiled with advice from the staff of SAC and IERM (Institute of Ecology and Resource Management, University of Edinburgh). Further names were added in the course of interviewing as the interviewees suggested names of individuals and organisations. The interviews were conducted at the offices of, or other places convenient to the interviewees throughout Great Britain, mainly in June, July and August of 1991 and some additional cases in June 1993.

The interviews were conducted using a core check-list of open questions and issues for discussion, presented in Appendix A. The majority of the questions and issues

on the check-list were discussed with all the interviewees although the exact wording of the questions had to be changed according to the nature of the individual organisations that the interviewees represented. Adjustments were also made to the "agenda" during the interviews in order to clarify issues that emerged in the course of the interviews.

In Great Britain, a total of 21 interviews were carried out. The interviewees were assured that their identity would be kept confidential and therefore it is not possible to present a list of interviewees and their positions in the organisations they represented. The distribution of the interviews between various groups of suppliers of advice is shown in Table 3.1. Several of the interviewees had been working for advisory services in more than one of the above groups during their career. Therefore the number of views from different people reflecting the development of a particular type of advisory organisations can be slightly bigger than shown in Table 3.1.

Table 3.1. Distribution of interviewees between various groups of advisory organisations in Great Britain.

Type of Organisation	Number of Interviewees
Public Advisory Services	5
Suppliers of Chemicals and Fertilizers	4
Suppliers of Livestock Feed	1
Banks	3
Processors/Handlers of Farm Products	5
Small Advisory Businesses	3
TOTAL	21

All the interviews were tape-recorded. The tapes were scripted and analysed. The information regarding major organisational changes and changes in the subjects of advice were mapped on the timescale for each of the organisations. The findings, based on the interviews, are presented and discussed in Sections 4.3 and 4.4, mainly in Section 4.4.1 below.

3.3.3. Survey of Individual Consultants and Small Advisory Businesses

A mail survey was used to obtain information about the small advisory operators. The survey addressed two main blocks of issues:

(1) determining when the small advisory operators were established; and

(2) identifying the subject areas as well as changes in the mix of subjects on which independent consultants gave advice.

The information obtained from the survey is presented in the discussion about the development of small independent consultancy businesses in Section 4.4.2. The questionnaire form can be found in Appendix B. Here the discussion is limited to technical issues of obtaining and analysing the information.

The survey was mailed to the full membership of two professional organisations of independent agricultural consultants: the British Institute of Agricultural Consultants (BIAC), founded in 1957 (BIAC, 1992) and the Association of Independent Crop Consultants (AICC), founded in 1981 (AICC, 1992). The latter is more specifically oriented towards advice on issues of arable farming whereas the former has no specific subject related orientation. The survey was mailed on two occasions - in September 1991 for the BIAC and in April 1993 for the AICC. The rate of response was, in the first case 63.6 per cent*, and in the second case 35.3 per cent.

The membership of the two organisations at various years was assumed to be a representative sample of the number of independent advisers. Not all the independent consultants belonged to the two organisations. Nevertheless, as no other sources of information about the subjects areas in which the independent consultants worked were identified, the survey results are viewed as the best available data. The results are subject to several limitations in interpretation.

First, the respondents were asked to identify the subjects on which they gave advice at different periods in their career as independent consultants. This was done by asking the respondents to tick against a given set of subjects (See the questionnaire in Appendix B). The percentages of respondents ticking against any subject were calculated separately for the respondents from the two different organisations for different periods. As the respondents were asked to identify the subjects

* Together with the responses from an additional mailing explained further below in this Section

retrospectively over a period of up to 20 years depending on the individual circumstances, the results are limited in that human memory is selective and subjective.

Second, the sample of respondents in 1991/92 cannot with confidence represent the real situation in earlier years as some consultants may have ceased from active work due to death or retirement or for other reasons. In order to reduce the distortions in this respect, an additional mailing of the survey was carried out to those consultants who had been members of the BIAC in earlier years, but who did not receive the first questionnaire as they were not listed as a member in 1991/92 (BIAC, 1992). The additional mailing contained 108 questionnaires of which 31 were returned completed and 28 uncompleted. Of the 31 completed questionnaires only five had ceased working as consultants. The remaining 26 had left BIAC for various personal reasons. The additional mailing did not give as much information as was hoped for, i.e. about the consultants who had worked in earlier years and had subsequently stopped working as consultants. Nevertheless, it widened the basis of the survey considerably and showed that many of those who had ceased being members of BIAC still continue practicing.

The sample did not include consultants who were practicing without belonging to the two organisations. An effort was made to identify other groups of independent consultants that could be included in the survey. For this, the representatives of the above organisations and the persons interviewed for information regarding other sections of the study were consulted, but with no success.

The extent to which the number of respondents represents the membership of the two organisations in the different periods was established by comparing the number of responses and the number of members in the respective organisations. The relationship is presented in Tables 3.2 and 3.3. The responses represent a steady proportion of the members of the two organisations - in the case of BIAC between 62 and 67 per cent over the last decade and in the case AICC approximately 35 per cent for 1986 and 1991.

Table 3.2. Comparison of the Number of Survey Responses to the Number of Members of BIAC.

Year	Number of members in BIAC	Number of responses given in 1991 regarding a period	Per cent
1971	34	20	58.8
1976	41	30	73.2
1981	76	51	67.1
1986	140	87	62.1
1991	187	119	63.6

Table 3.3. Comparison of the Number of Survey Responses to the Number of Members of AICC.

Year	Number of responses	AICC membership[1]	Per cent
1971	1	n.a.[2]	n.a.
1976	5	n.a.[2]	n.a.
1981	21	.....[3]	n.a.
1986	31	89(100)[4]	34.8
1991	36	102(112)[5]	35.3

[1] AICC Membership less those members who also belong to BIAC (The figures in brackets reflect the total AICC membership).

[2] AICC was established in 1981

[3] The number of members for 1981 was not available to the author

[4] Membership at 1 June 1985.

[5] Membership at October 1992.

3.4. Data for Validation

Data about the cases used for validation of the Conceptual Framework were in general collected by means similar to those used for investigation of the development of the Extension Complex in Great Britain.

In addition to using available published information, the emphasis was on written consultation with experienced individuals in each of the countries. In some cases it was possible to carry out in-depth interviews in person or over the telephone.

As with Great Britain, there was relatively more published information available about public (publicly supported) advisory organisations. This could be obtained from the organisations concerned, from special publications of international organisations, such as OEEC, OECD and EEC, and from various other papers and publications.

Information about private advisory organisations was almost exclusively collected by consultations, interviews and questionnaires. The organisations and contact persons were initially identified with the help of representatives from public advisory services. The identified persons were then contacted to seek their agreement to be interviewed or to respond to a questionnaire. In most cases, a written response was obtained to questionnaire. The questionnaire was adjusted according to the specific conditions of the country and organisation of the addressee, but the core questions remained similar for all those questioned/interviewed. Two examples of questionnaires for collecting validation information are presented in Appendix C:

- a typical questionnaire sent to representatives of various companies involved in supplying farm inputs or processing/marketing farm outputs in order to obtain information about the company, its advisory activities and about advisory activities of other similar companies.

- an example of a questionnaire sent to persons considered to have broader and longer experience in advisory work in a country who could provide opinions about overall developments in the Extension Complex.

Often the questionnaire was returned with additional comments and led to further questionnaires sent to other potential respondents and to follow-up clarifications with the original respondents over the telephone.

In cases, where it was possible to meet the respondent or to use the telephone, an in-depth interview was carried out based on the same check-list was as with the interviews regarding advisory activities of large commercial organisations in Britain (see Appendix A). The interviews in person took place either at the office of the interviewee (in the case of the Netherlands) or at the premises of the Scottish Agricultural College (in the case of Denmark as two Danish extension specialists, working for a short period at the SAC, were interviewed).

The primary data collection for validation by means of questionnaires and interviews was carried out throughout the period from September 1991 to August 1993 as relevant persons were identified and contacted.

The the types of organisations represented by the respondents and means of obtaining information are listed according to the three countries in Table 3.4. Some of the respondents were contacted several times, but this is not indicated in the table. Thus the total number shown for each country represents the number of separate responses.

The outcome of the interviews and questionnaires is presented in Sections 6.2.4, 6.3.4 and 6.4.4 where the main changes in the development of the Extension Complexes of Denmark, Finland, and the Netherlands are discussed.

Table 3.4. Respondents and Means of Collecting Data for Validation of the Conceptual Framework

Country/Type of Organisation	Means of obtaining information
Finland	Total of 5 Responses
Publicly Funded Advisory Organisation	Questionnaire
Chemicals/Fertilizer supplier	Questionnaire
Meat Processing	Questionnaire
Milk Processing	Questionnaire
Sugar-Beet Processing	Questionnaire
Denmark	Total of 9 Responses
Publicly Funded Advisory Organisation	Interview
	Questionnaire
	Questionnaire
Chemicals/Fertilizer Supplier	Interview
	Questionnaire
	Questionnaire
Livestock Feed Supplier	Questionnaire
Meat Processor	Questionnaire
Independent Consultant	Questionnaire
The Netherlands	Total of 8 Responses
Public Advisory Service	Interview
	Questionnaire
Publicly Funded Advisory Service of the Farmers' Union	Interview
Regional Government Agricultural Office	Interview
Feed Supplier	Interview
Milk Processor	Interview
Independent Consultant	Telephone Interview
Independent Consultant	Questionnaire

3.5. Appraisal of the Extension Complex in Estonia

No significant published information exists about the current situation in the Extension Complex of Estonia. Therefore, the appraisal of the recent past and the current situation in the Extension Complex in Estonia, presented in Sections 7.3.4 and 7.4.2, is based on the author's work at the Institute of Rural Development, Tartu, Estonia (IRDE).

In the period from 1986 to 1990, the work involved a series of strategic problem-solving participatory workshops (approximately 50) with senior managerial personnel of large-scale farms that provided a broad based insight into the decision-making on the farms and also into sources and flows of information and advice during this period.

The detailed appraisal of the current situation in the complex of various insitutions/organisations in Estonia, that have become involved in providing advice to different groups of farmers, is based on the work carried out under the auspices of the project established under the coordination and leadership of the author. The main objective of this project was to devise a strategy for developing extension services in Estonia with the participation of all interested parties. Although the implementation of the project has been impeded by budgetary constraints, the information and opinions gathered by the author and the project team have provided valuable material for this study. The author was actively involved in the project and information gathering between December 1991 and October 1992. Further information has been supplied to the author by the rest of the project team since October 1992.

More information about the appraisal methods are provided in the relevant Sections of the thesis (Sections 7.3.4 and 7.4.2) and in Appendix D.

4. EVOLUTION OF THE EXTENSION COMPLEX IN GREAT BRITAIN

4.1. Introduction

This Chapter of the study observes the development of the Extension Complex in Great Britain in relation to changes in the interests that the British nation has exercised with regard to agriculture. The observations serve as a detailed insight into the evolution of an Extension Complex and provide a background to the elaboration of the Conceptual Framework of qualitative changes in Extension Complexes presented in Chapter 5.

First, the development in the role that agriculture has had for the British nation and the policies that the nation has pursued with regard to agriculture, are presented. Second, the developments in the Extension Complex are described, separately for the public and private sectors of the Complex. Finally, the developments in the orientation of agricultural policy and production on the one hand, and those in the Extension Complex on the other hand, are integrated into a summary framework.

The information about the evolution of the Extension Complex in Great Britain, presented in this Chapter of the study, is to a large extent based on primary data, collected in the course of the study. The observations regarding the public sector advisory institutions are based on published reports as well as on information obtained directly from the relevant organisations. The description of the developments in the private sector advisory organisations is almost exclusively based on primary data collected in this study. The primary data collection involved a series of in-depth open interviews with senior managers of advisory operations of selected large companies and a mail survey of independent "small" consultants (see Section 3.3).

4.2. Development of the Agricultural Situation

4.2.1. Agriculture and the Nation

Physical Background

In 1988, the total area of Britain was 24.4 million hectares of which approximately 76 per cent is used by agriculture. A further 9.3 per cent of the total territory is wooded and 1.3 per cent is under water leaving 13.4 per cent for other uses. One third of the land used by agriculture is under rough grazing, i.e. not suitable for intensive cultivation. Conditions vary between different parts of the country, Northern and Western parts having most of the hills and being most varied.

Changing Role of Agriculture in the National Economy

Agriculture's role in the economy has declined significantly over the years following the Second World War. This change will be illustrated below by looking at:

(1) the share of agriculture in Gross Domestic Product;
(2) share of agriculture in employment;
(3) the role that food has in foreign trade; and
(4) dependence of the country on food imports.

Agriculture's share in the formation of Gross Domestic Product at below two per cent (1.5 % in 1989) is amongst the lowest in Europe as compared for example to 3.3 per cent in France and 4.2 per cent in Denmark. Figure 4.1 illustrates the downwards trend in the share of agriculture, forestry and fisheries in GDP. In current prices, the value of agricultural product has increased significantly since 1970, but at constant prices a slight decline can be observed (Figure 4.2).

Similarly, the role of agriculture in providing employment has decreased both in relative and absolute terms. In 1989, 2.1 per cent of the active population was engaged in agriculture, fisheries and forestry as opposed to 5.2 per cent in 1951. The reduction in the number of agricultural workers (Figure 4.3) together with the changes in the structure of farms farm holdings (Figure 4.4) and agriculture's share

in employment (Figure 4.5) reflect the increase in the efficiency of labour use on farms as well as the decline in the social base for the agricultural lobby. There have been recent indications of an increase in the rural population, that declined together with the agricultural labour force until the 1970's. According to the preliminary reports of the 1991 Population Census, the rural population has increased in near metropolitan areas and larger towns, but is still decreasing in more remote districts.

Britain is a country that traditionally imported a relatively large proportion of its food. Therefore, issues of agricultural trade and self-sufficiency have continuously emerged on the agenda of agricultural policy either in connection with the threat to food supplies during hostilities or regarding the high cost of imports (Ritson, 1980). The latter has been especially important at the times when there were difficulties with the Balance of Payments in the Current Account (Figure 4.6).

Immediately after the war, food accounted for over 40 per cent of the value of the Nation's imports. The share has since decreased to below 10 per cent (9.6 % in 1987), as illustrated in Figure 4.7, whereas the share of food in total exports has only slightly increased from 3.4 per cent in 1948 to 4.5 per cent in 1991.

Reduction of food imports and expansion of domestic agriculture was one of the major resources for balancing the current account as food accounted for a large proportion of visible trade (Figures 4.6 and 4.7). Britain has had a chronic deficit of current balance and even bigger deficit in visible trade. As the share of food in foreign trade has become smaller, its significance to the economy as a resource for savings in imports has also declined.

The value of food imports (Figure 4.8), in constant prices, has been declining since the war time food shortages were overcome, with a major exception in the trend at 1972-74, the time when Britain joined the EEC. Over the same period the value of food exports has steadily increased.

In terms of the value of the food consumed in the United Kingdom, the country is only slightly more than half self-sufficient in food and three quarters self-sufficient in indigenous food (Figure 4.9). Over the period since the World War II Britain has become self-sufficient or nearly self-sufficient in many individual agricultural products as illustrated in Figure 4.10.

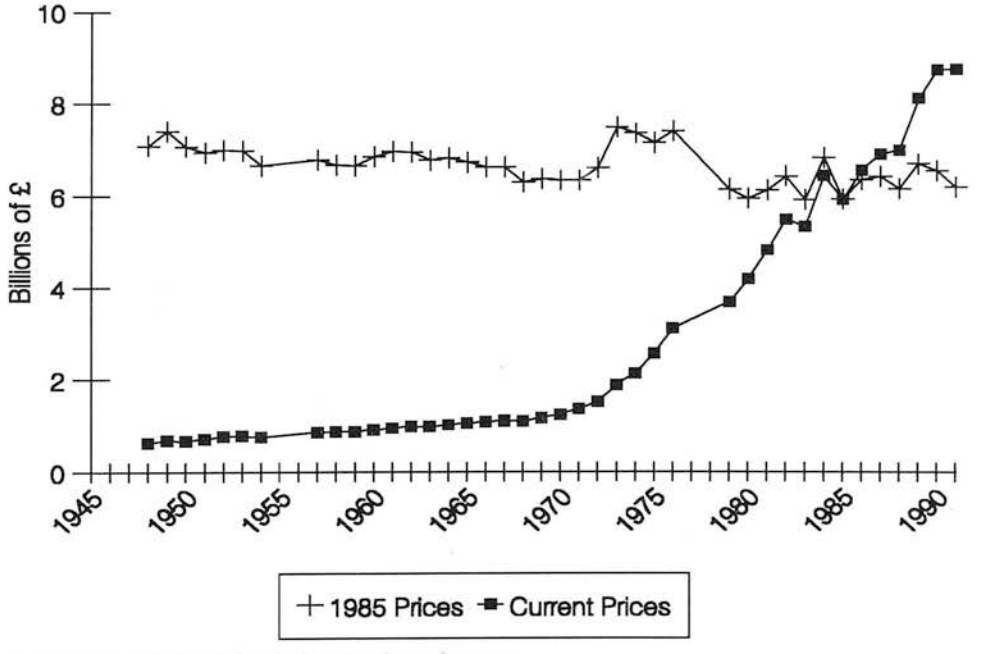
Figure 4.1.

Share of Agriculture, Forestry and Fisheries in Gross Domestic Product
The United Kingdom

Source: Annual Abstract of Statistics; various issues

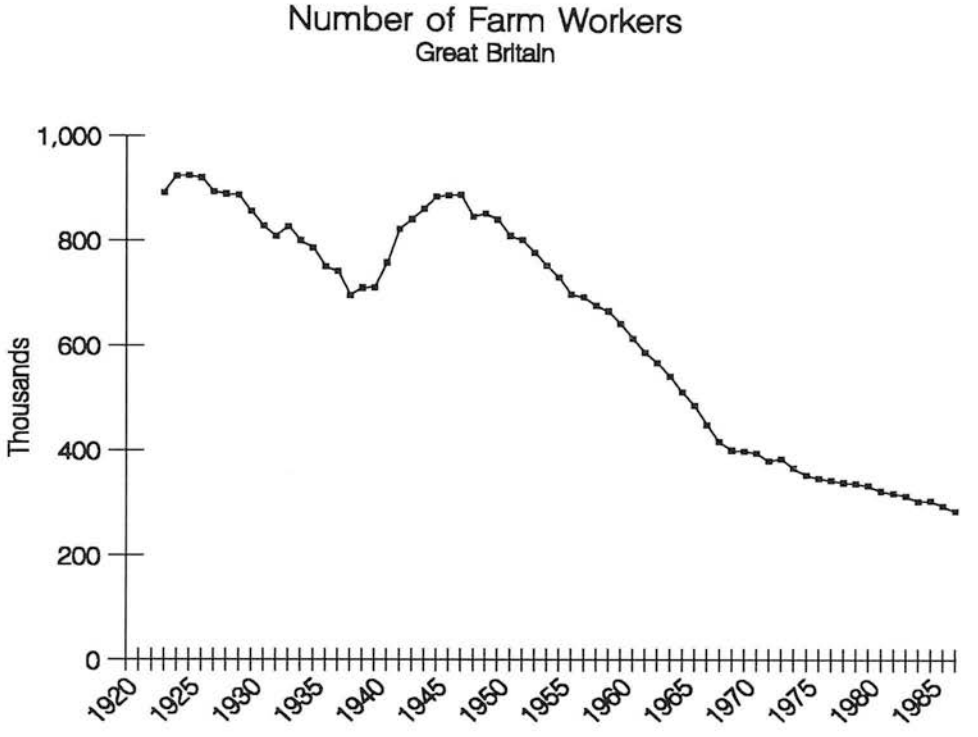
Figure 4.2.

Domestic Product of Agriculture, Forestry and Fisheries
The United Kingdom



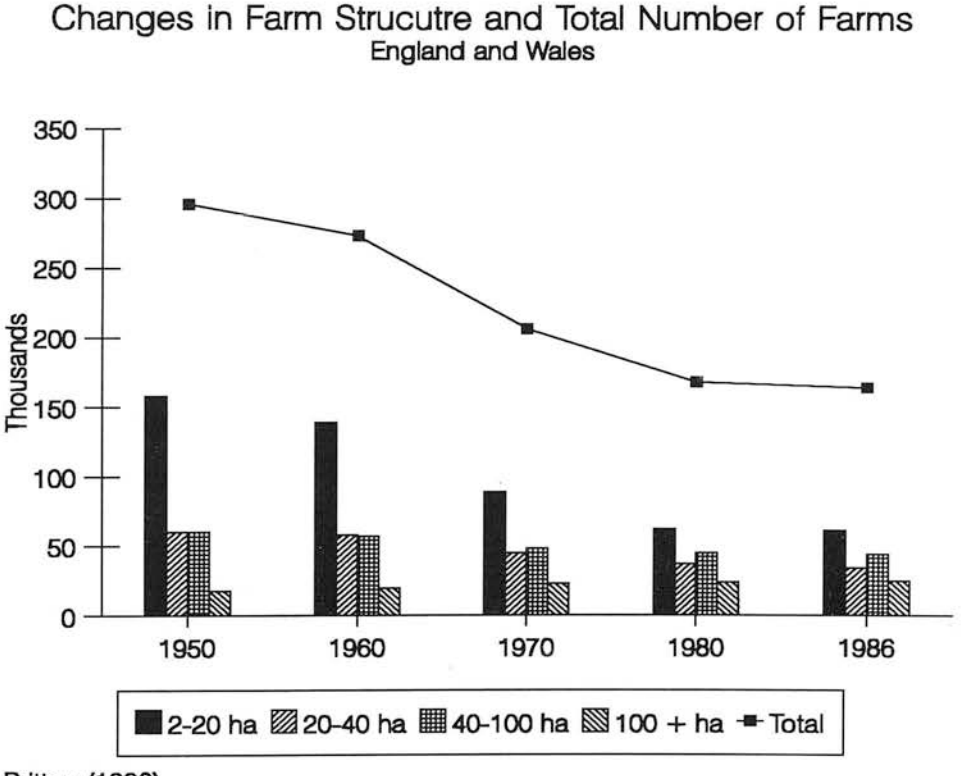
Source: Annual Abstract of Statistics; various issues

Figure 4.3.



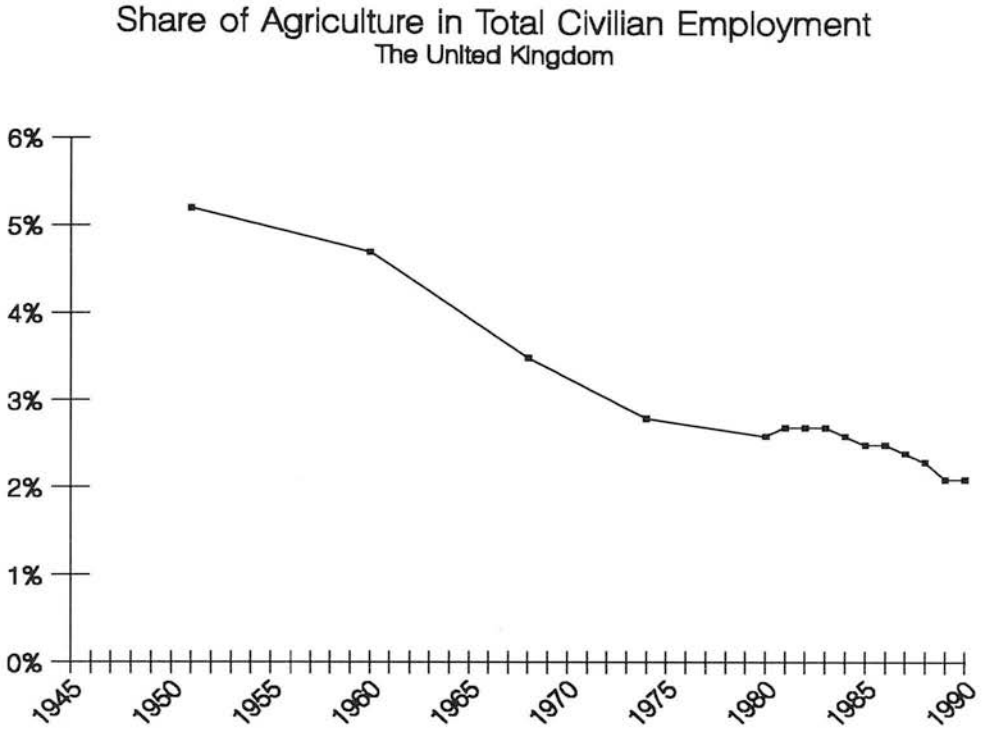
Source: Marks (1989)

Figure 4.4.



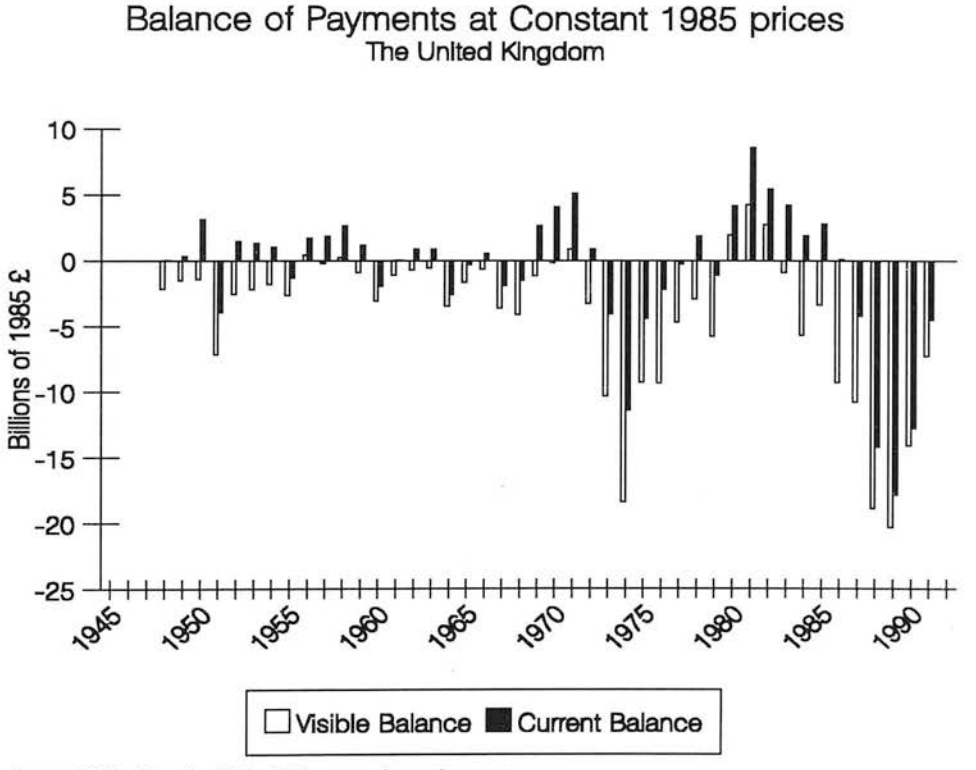
Source: Britton (1990)

Figure 4.5.



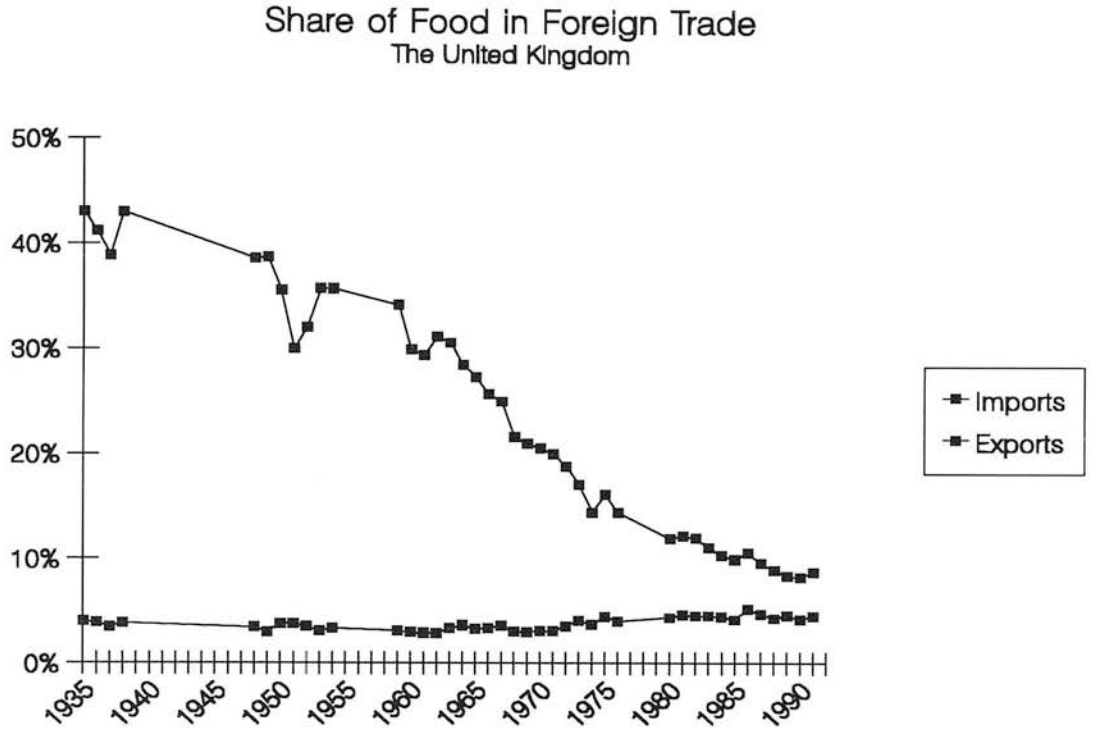
Source: OECD (1992)

Figure 4.6.



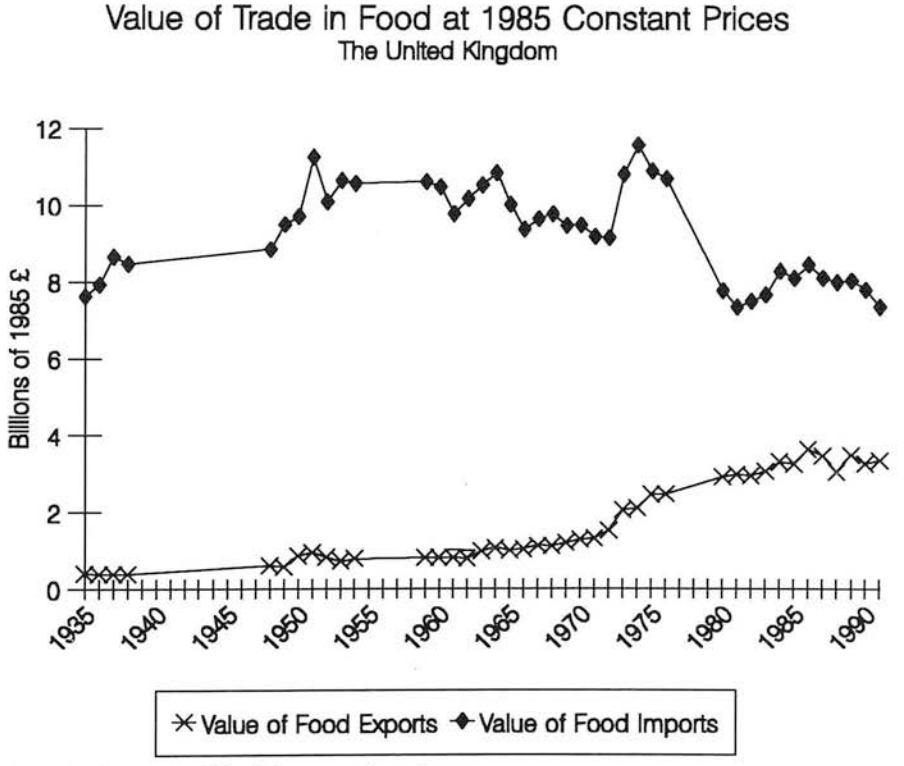
Source: Annual Abstract of Statistics; various issues

Figure 4.7.



Source: Annual Abstract of Statistics; various issues

Figure 4.8.

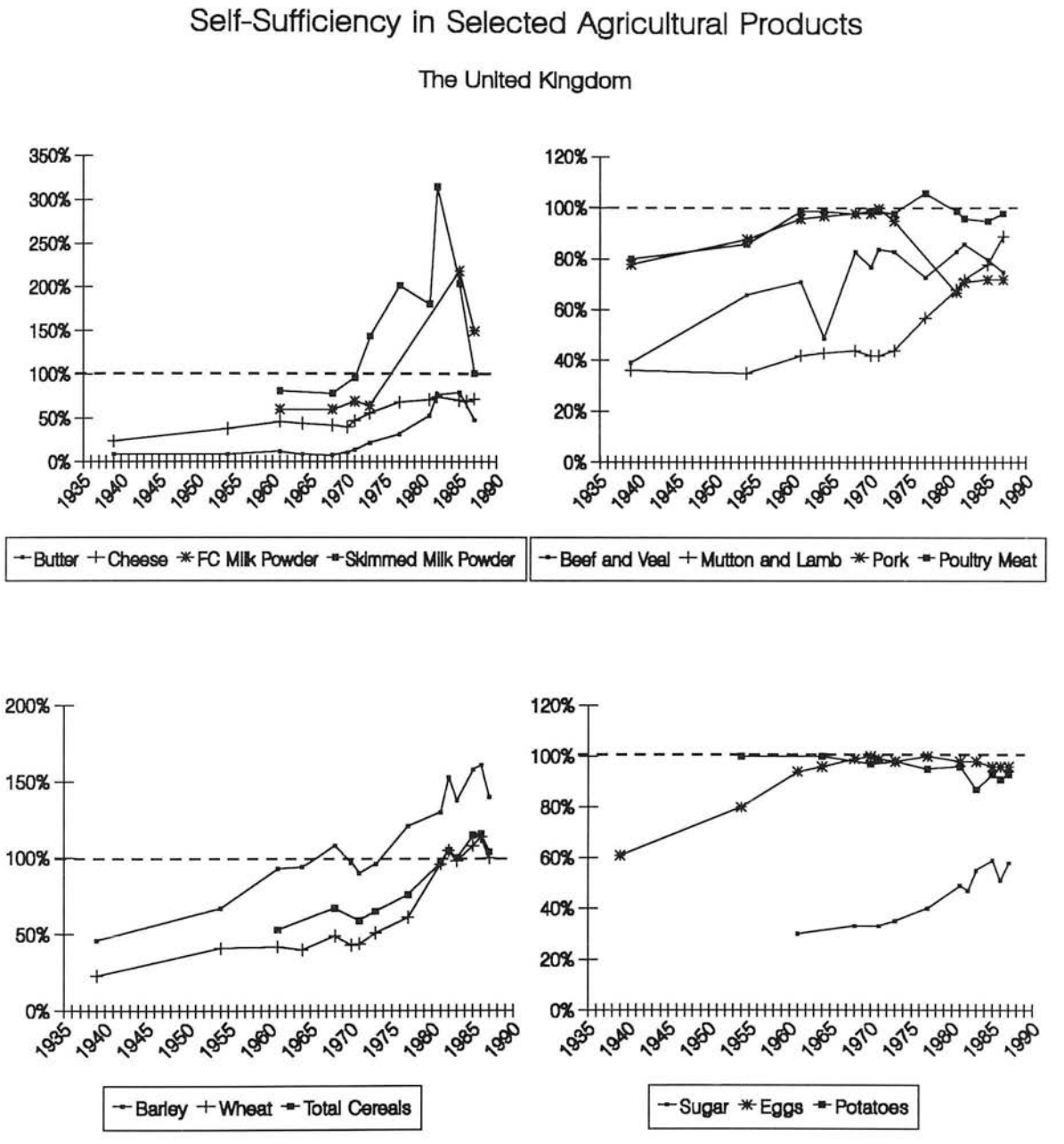


Source: Annual Abstract of Statistiscs; various issues

Figure 4.9.

Source: Marks (1989)

Figure 4.10.



Source: Nagle (1976), MAFF (1980), Eurostat (1986, 1991)

4.2.2. Agricultural Policy Objectives

Introduction

In this Section statements with regard to agricultural policy objectives will be reviewed and summarised.

The British Government had followed a line of free trade between 1869 and 1931 with a short-lived exception towards the end and immediately after the First World War (1916-1922). In the early 1930's, British agricultural policy orientation changed from that in favour of free trade to that of government intervention, protection and support in order to reduce the effects of cheap imports on domestic agriculture. The efforts by foreign countries to sell cheap agricultural produce in the British markets intensified as many countries that had traditionally imported food became more protective thus resulting in contraction of the world market (Tracy, 1989). Protection and support to agriculture in Britain continued throughout the Second World War as traditional overseas food supplies were disrupted by the hostilities.

Expansion in Agricultural Production

Agricultural policy in the United Kingdom immediately after the World War II was established by the Agriculture Act of 1947 that set the general objective as that of:

> *"... promoting and maintaining a stable and efficient agricultural industry capable of producing such part of the nation's food and other agricultural produce as in the national interest it is desirable to produce in the United Kingdom, and of producing it at minimum prices consistently with proper remuneration and living conditions for farmers and workers in agriculture and an adequate return on capital invested in the industry."*

Under this general aim the policy had for the immediate post-war period two main objectives OEEC (1961):

- to support the incomes of the farming community;
- to encourage an increase in the volume of food production.

Food was in short supply throughout WW II and rationing was still in force during the immediate post war years. The situation eased as domestic production grew and trading patterns gradually re-established after the end of hostilities. The target of 60 per cent above the pre-war level of output was reached in 1956-57 (OEEC, 1961) and since then the emphasis changed to encouraging more productive and competitive agriculture.

Encouraging More Productive and Competitive Agriculture

The objective of expansion in agricultural output persisted, but the efforts became more selective. Over the first post-war decade, the reasoning behind promoting expansion shifted from satisfying the hungry market to the more general economic aim of saving foreign exchange. Growth was encouraged for commodities where scope was seen for improvement of self-sufficiency (e.g. beef and pigs). In other commodities growth was desired only if it was accompanied by expansion of market, improved economy of production and/or quality (mutton and lamb, milk, eggs, potatoes).

In 1965, the Government stated its intentions (OECD, 1967; HMSO, 1965b) to introduce new measures in relation to agriculture, particularly regarding:

- the promotion of increase in farm productivity;
- improvement in farm structure;
- marketing.

The views of the Government on the role that agriculture should play in the British economy in the mid-1960's, were set in the National Plan for Economic Development (HMSO, 1965a) and have been summarised in OECD (1967): the general economic objectives were to achieve 25 per cent growth in Gross Domestic Product by 1970 and to secure a sound balance of payments (See Figure 4.6.). Agriculture was expected to contribute to the plan in two ways:

- by increasing production in order to meet growing demand;
- by making labour available through increased productivity.

The expansion in agriculture was to continue to be selective and based on increasing rate of productivity. In commodities in which Britain was already self-sufficient, such as eggs, poultry, maincrop potatoes (see Figure 4.10), only such growth in volume was desired as to meet growing demand, whereas in other commodities (beef, pigmeat, milk, cereal production, horticulture) wider growth was expected. Main emphasis was laid on increasing productivity, which was to be encouraged by a number of means:

- helping to maintain stability in agriculture;
- encouraging the introduction of new technologies;
- improving farm management practices;
- improving marketing;
- encouraging increase in the size of agricultural businesses and farms (by amalgamation of farms or co-operation);

Common Agricultural Policy

On January 1st, 1973 Britain formally joined the European Community, having held long negotiations regarding the conditions of joining the Community and its Common Agricultural Policy (CAP)*. Britain gradually adopted from there on the

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* The objectives of the Common Agricultural Policy as established by the Treaty of Rome in 1957 (OECD 1987):

- to increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilisation of the factors of production in particular labour;
- thus to ensure a fair standard of living for the agricultural community, in particular by increasing the individual earnings of persons engaged in agriculture;
- to stabilise markets;
- to assure the availability of supplies;
- to ensure that supplies reach consumers at reasonable prices.

The objectives were made more specific a year later at the Stresa Conference:

- the structures of European agriculture were to be reformed in order to increase competitiveness;
- Family farms were not to be threatened by structural developments;
- the common prices were to be established at a higher level than world market prices in order to allow for the generally higher costs of production and adequate earnings;
- the prices were to be set in such a way as not to be incentive for over-production;
- the CAP was to protect the internal market of the Community from outside distortions.

principles of the Common Agricultural Policy. By entering the European Community and joining the CAP Britain was facing new limits to her freedom in agricultural policy making. Britain had accepted the broad objectives of CAP, but it did seek to improve the CAP in such a way as to move towards greater economic rationality, including restraint on overall costs (NAO, 1985). UK being a net contributor to EC budget, such improvements were in the best national interest. UK had its own agricultural policy, complementary to the CAP, aiming at developing an efficient and competitive national agricultural industry. Therefore, Britain has continuously attempted to improve the definitions of CAP objectives and to separate price and sectoral support from social support.

In the anticipation of joining the EEC, the Government saw a need for further expansion of agricultural production. This need was expressed in the 1972 White Paper on Price Review where the following aspects were emphasised:

- entry to EEC provides opportunities for agriculture;
- the share of British agriculture in the larger EEC market (including UK domestic market) depends on the competitiveness of farmers;
- government's aim was to encourage farmers to start expanding as soon as possible.

The expansion was seen as a means of saving imports and reducing the net cost of EEC membership to the nation, which imposed increased expenditure on agricultural support, increased food prices and payments into the Community's funds.

The White Paper of the Government, titled "Food From Our Own Resources" (HMSO, 1975), called for further expansion, particularly in sugar and milk production where CAP prices were much higher than world market prices. The priority was given to these branches of agricultural production after comparisons were carried out to identify the branches that could potentially provide highest returns to the nation's economy. The overall expansionist attitude was justified with possible risks of shortages and with the fluctuations in food prices within in the Community and on the world market.

Four years later, another White Paper - "Farming and the Nation" (MAFF, 1979) - continued the expansionist line in order to save imports and ensure food supplies to the nation. It was emphasised that growth should be achieved by means of increased

productivity. The scope of expansion was set at the level of 10-20 per cent in real terms in five years, though no more specific targets were set. In general, the function of the paper was to assure the industry of the national interest in further growth.

Attention to Environmental Issues

"Farming and the Nation" of 1979 was one of the first indications of the shift in the national agricultural policy towards greater attention to environment (Capstick, 1991). Issues of protection of countryside had been mentioned in policy making before but only as a sideline to other issues. For example, protection of countryside was mentioned among the reasons for setting up the Less Favoured Areas (LFA) status at the Community level in 1975 (Jones, 1977), but the main objective of LFA status was to support the continuation of agricultural production in such areas and thereby prevent rural depopulation. Over time, the environmental policy measures became more concrete and extensive. Examples include the Environmentally Sensitive Areas Scheme, initiated in 1985, and the "Farm Conservation Grant Scheme", established in 1989 (MAFF, 1989).

Market Balance

The shift towards additional priorities coincides with the emergence of over-production of food in the EEC, which eventually lead to reform of the CAP. The year 1979 saw a recognition at the Community level for the need to start taking stronger action towards balancing the market and reducing the CAP expenditure as over-production had emerged and grown (Commission, 1979). Various *ad hoc* restrictive measures were taken over the next decade to curb production of commodities in surplus and to control Community expenditure on price support.

Milk quotas were introduced in 1984 (MAFF News Release 385/89). In 1986, the European Commission proposed reforms in the beef regime. As milk production continued above the level allowed by quotas, emergency action was taken to reform measures regarding milk. UK initiated the discussions to achieve diversion of land

from cereals production (GB Government, 1987). A cereals stabiliser mechanism was agreed and introduced in 1988.

The Green Paper of 1985 on the "Perspectives of Common Agricultural Policy", stated that whilst the aims of the Treaty of Rome must be maintained, the policy must be adjusted in line with the following six priorities that were agreed by the Commission (Commission, 1987):

- to reduce the production of surplus commodities and consequently to ease the burden on the tax-payer;
- to diversify production and to improve the quality of produce in order to meet the requirements of internal and external markets;
- to take more effective and systematic action to support the income of small family farms;
- to provide support to farming, where it is essential for maintenance of regional development, social stability and for protection of the environment as well as the countryside;
- to increase farmers' awareness of environmental problems;
- to develop processing industries in the Community.

Diversification

In the late 1980's, there were significant changes in the UK agricultural policy (HMSO, 1987). Farmers were offered support to become engaged in commercially viable alternatives to producing surplus food. New support schemes were established such as set-aside, Farm Woodland Scheme, Farm Diversification Scheme. The area, designated as Environmentally Sensitive, was increased and the Capital Grants Scheme was reoriented. The Minister of Agriculture stated that it was the government policy to encourage farmers to find ways of generating an increasing proportion of income from activities which respond to market demand including alternative employment of assets and business skills on farm (MAFF News Release 34/89).

A study by the Royal Agricultural Society of England (RASE, 1991) highlighted objectives for future policies regarding agriculture and rural enterprises. In addition to more traditional objectives of maintaining competitive, efficient, profitable and

technologically advanced agriculture, sensitivity to environment was emphasised together with the need to maintain capacity for future expansion if such need arises. The issues of protecting economic life of the rural communities in the conditions where agriculture's role in providing employment is declining, was considered of high priority. The scenic, heritage and recreational values of countryside have obtained more public attention. For these reasons the study called for a more comprehensive rural development policy.

Outline proposals for radical reform of the CAP were formally adopted in June 1992. The reform carries reorientation of support from supporting production through price mechanisms to making direct income support payments. As a result, the support prices are expected to fall from 1993 onwards, when the reforms take effect. Also, commitments were made towards greater emphasis on environment protection thus expanding some practices, already used in the UK, into the Community (e.g. Environmentally Sensitive Areas). Schemes involve payments to encourage less intensive production methods and set-aside (GB Government, 1993).

Summary

The evolution of agricultural policy orientation and national interest towards agriculture is summarised in Figure 4.11. Agricultural policy has, over the period since WW II, changed its orientation from encouraging the expansion of output to limiting and restricting production. There have been several phases in this continuum. First, the objective was to expand at any cost, then the expansion had to be accompanied with increased efficiency of production. With the achievement of self sufficiency in some products, the encouragement of expansion became selective. This latter phase was the longest in duration, being replaced by growing emphasis on increasing the efficiency and competitiveness of agricultural industry accompanied by more and more limitations on the level and ways of production.

The national economic interest behind these policy objectives has been twofold:

(1) ensuring sufficient supplies of food for the population was of top priority after the war and continued to be important throughout the period, but more in terms of the affordability, which leads to the second side of the national interest;

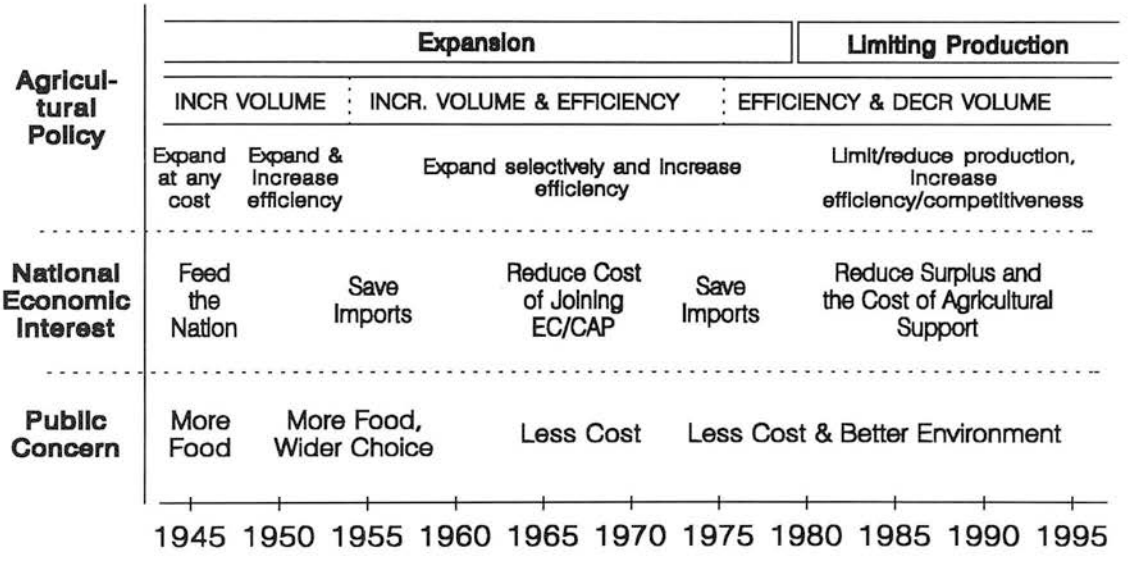
(2) to avoid unnecessary cost to the economy in terms of the expenditure on imports, consumer expenditure on food and the cost of agricultural support.

The broad public concern behind these objectives has developed in similar lines with the most important difference occurring towards the end of the period, namely, in attention to issues of protecting the environment from deterioration, and at recreational values of countryside.

Figure 4.11.

Evolution of Policies and National Interests with Regard to Agriculture - Summary

The United Kingdom



4.3. Public Advisory Services

The public advisory services in different parts of the United Kingdom have followed different paths in their development. The arrangements have been different in England and Wales, Scotland and Northern Ireland. The following discussion is geographically limited to England and Wales, and Scotland.

Material about public advisory services is presented in four Sections of which the first two are concerned with organisation and financing of the services in England and Wales before and after WW II, the third looks at the same issues for Scotland and the fourth discusses the evolution in the subjects of advice together for England and Wales, and Scotland.

4.3.1. Origins of Public Advisory Services in England and Wales 1889-1946

The early period of public advisory work in England and Wales has been studied by Jones (1984) of which a brief review will be appropriate. Three acts of legislation - the Local Government Act of 1888, the Board of Agriculture Act of 1889 and the Technical Instruction Act of 1889 enabled the start of agricultural advisory activities at county level. The newly established Board of Agriculture made the first grant towards agricultural education and instruction in 1888.

By approximately 1905, the basis for agricultural education and an advisory system had been established. It comprised of two elements - universities, university colleges and colleges on the one hand, and the advisory work organised by counties on the other hand. The advisory work lacked central guidance and coordination in this initial stage, thus resulting in an uneven level of activity between counties expressed in varying levels of cooperation between the two elements and in varying levels of staff and funding. Advisory work was jointly financed by the government and local authorities. The government provided approximately 1/3 of the total sum paid by the county authorities (Jones 1984).

In 1907-08, the administration of agricultural education was reviewed by a committee of the Board of Agriculture and Fisheries and several recommendations were made in relation to further development of advisory work. In 1911, provisions

were made for a two-tier (general county advisers and specialists) system for advisory work, which by 1914 employed 32 county organisers with a total staff of 166 (Jones, 1984). Immediately after the First World War, the system was further developed in an economic environment, where UK farmers were protected and supported. In 1922, when the protection was discontinued, the government support to agricultural research and education became one of the main indirect means of supporting agriculture (Jones, 1984).

According to Jones (1984) the provision of advice still remained uneven between different counties, one of the main reasons being the mechanism of financing. The richer counties, that could afford to spend more, tended to have smaller agricultural populations and thus, the need for agricultural advice was less. The disparities were further deepened as government support was given in proportion to the funds allocated to advisory work by counties. The counties, that spent little, also received very little support from the Government.

Government expenditure on advisory work quadrupled between 1919 and 1927 and almost every county had an agricultural organiser by this time (Jones, 1970). In comparison, approximately half of the counties had an agricultural organiser in 1914 (Jones, 1970). By 1939 there were 55 county organisers with the total staff of 468. For specialist advice there were 13 university centres in 1939 (McCann, 1976)

4.3.2. Financing and Organisation of Public Advisory Services in England and Wales after WW II

The arrangements for providing agricultural advice were reviewed again by the Luxmoore Committee set up by the government in 1941. The Committee had a broad task of proposing improvements to the agricultural education system that were to be implemented after the end of the Second World War. The Committee proposed to establish a national advisory service, which would incorporate the earlier dual system of County and University/College based provision of advice.

Parliament was concerned with ensuring stability for agriculture by means of fixed prices and guaranteed markets. It was voiced that agriculture should not be allowed to decline as had happened after WW I. The establishment of a national advisory

service was seen as one of the means of ensuring increased food production and increased efficiency. It was stressed in the parliamentary discussions, that guaranteed and stable markets did not provide sufficient drive for producers to increase efficiency, and thus the advisory service had a special role to fulfil in this respect (McCann, 1976; Dancey, 1993).

The establishment of the National Agricultural Advisory service (NAAS) was enacted by the 1944 Agriculture (Miscellaneous Provisions) Act. NAAS was established in 1946 for:

> *"the provision of free technical advice to those engaged in commercial agricultural or horticultural production."*

NAAS was organised in four levels (OEEC, 1950): (1) districts, (2) counties, (3) provinces and (4) headquarters. There was a general adviser in each district. At the county level, there was a team of husbandry specialists to support the district advisers and a county Officer. The provinces (later regions) controlled a team of scientists and laboratory staff to provide services to counties and districts. Headquarters were located in the Ministry of Agriculture.

NAAS in comparison with the old system had several advantages (Watson, 1946):

- coordination of the service on the national basis enabled the removal of inequalities between counties, to link advisers and researchers more closely and to enhance the uptake of research findings in practice;
- the administration of agriculture, both nationally (Ministry of Agriculture) and in counties (the County War Agricultural Executive Committees) had a better source of information;
- in the past the advisers lacked the opportunity to try things out in the field which became possible with the establishment of approximately 20 husbandry experimental farms within NAAS;
- national organisation made it possible to create teams of specialists addressing complicated problems;
- county advisers became better paid and had better prospects for advancement.

NAAS was reorganised in 1971. It was replaced by the Agricultural Development and Advisory Service (ADAS) which in addition to NAAS incorporated the Agricultural Land Service, Field Drainage and Water Supply Service and

Veterinary Investigation Service that had been providing advice and services according to their speciality in parallel to NAAS. The aim of the reorganisation was to establish a nationwide organisation for the provision of advice that would incorporate the widest range of skills.

In 1971, also the question was raised, as to whether charging should be introduced for advisory visits (Dancey, 1993). The arguments for introduction of charging were, that farmers would then make more effective use of advice and also the cost to the government would be reduced as farmers would become more self-reliant. The Ministry issued guide-lines for the new organisation, that emphasised the economy of resource use and cost effectiveness (MAFF, 1971). ADAS was expected to withdraw from providing specialist advice and the private sector was expected to take up this market. Yet, as Dancey (1993) points out the hopes for expansion in private sector involvement did not materialise, as ADAS continued to provide an alternative free service in more general areas.

Nevertheless, charging was introduced for laboratory and design services in 1972 (ADAS, 1972). The subject of introducing fees for advice has enjoyed increasing attention on the agenda of discussions on ADAS development policies. The revenue created from laboratory charges did not form a significant part of the overall cost of ADAS. For the period of 1983-86 the total revenue of ADAS was on average 5.2 per cent of the gross cost (GB Government, 1989). Most of the revenue was generated from sales of produce from the experimental farms. The value of revenue generated by analytical services under the Agricultural Services Scheme was £1.6 million in 1985-86 (GB Government, 1987)

Over the next two decades, ADAS underwent several thorough reviews. In 1978 a Review group was asked to study the past developments and the future of ADAS, and to make recommendations regarding (MAFF, 1979 p. 3):

> *"i. the deployment of ADAS resources between the main functions, professional disciplines and commodities;*
>
> *ii. the relationship between ADAS and other suppliers of similar services both in the public and private sectors;*
>
> *iii. the role of ADAS in the formation and implementation of policy"*

Considerable parts of the report were devoted to discussion of the role of ADAS and experience in relation to other organisations that provide advice. The general

view taken in this respect was, that ADAS should not duplicate services provided by other organisations, but instead, lead the development of collaboration between the organisations.

The report gave higher priority to development and advisory work, and suggested to simplify the statutory work procedures and demands on skilled staff. With respect to chargeable services of ADAS, no considerable change was proposed.

The question of shifting the funding and provision of advice from the public sector towards the users of advice was raised again in the report by Professor Bell (MAFF, 1984), the Director General of ADAS. The Minister of Agriculture had asked the Director General to particularly examine:

- the priorities and level of ADAS services;
- the possibilities for transferring any services from ADAS to the private sector;
- the scope for shifting the funding of services from the tax-payer to the users.

With regard to the financing of ADAS, the study concluded, that ADAS could start marketing its services, but it was outlined that there was very limited scope for contracting services to the private sector at the time. The latter was seen as a possible development in the long term.

To introduce charging in ADAS, a change in legislation was needed. The Agriculture (Miscellaneous Provisions) Act 1944 had provided for the establishment of NAAS as a service offering technical advice "free of charge". The legal basis for the introduction of charging was created by the 1986 Agriculture Act. The act also made it possible to broaden the clientele that ADAS was entitled to service. ADAS became entitled to provide advice to industries related to agriculture, in addition to its traditional audience - commercial farmers and horticultural businesses (Dancey, 1993; GB Government, 1989).

Charging was started in April 1987 after a training period for staff and reorganisation of the structure of ADAS. Three broad functional groups were created as a result of reorganisation - the Countryside Service, the Research and Development Service and the State Veterinary service (GB Government, 1987). As will be elaborated more in detail in Section 4.2.4 below, the charging was not

introduced for advice on all subject areas. Provision of advice on so called "public good" subjects was continued on a "free of charge" basis.

The net cost of running ADAS in 1985-86 was approximately £139.5 million. The Government sought to achieve "economies in the organisation, procedures and staffing" of ADAS by reducing the net cost of ADAS by £19.5 million. The cuts were to be distributed as follows: £16.5 million in advisory services and £3 million on commissioned research and development. ADAS planned to meet the target by raising income (£6 million from statutory duties, £5 million from charges for advice and £3 million from levy and contract funded research and development work). Savings of £5.5 million were planned resulting in the loss of 409 staff posts (GB Government, 1987).

Such cuts in funding indicate the turning point in public sector support to provision of advice to agricultural industry. After the first year of charging, target levels of cost recovery were agreed at 50 per cent by 1993-94 for advice as opposed to the specific amount in the first year (NAO, 1991). Figure 4.12 illustrates the progress that has been made in recovering the cost of advice form users.

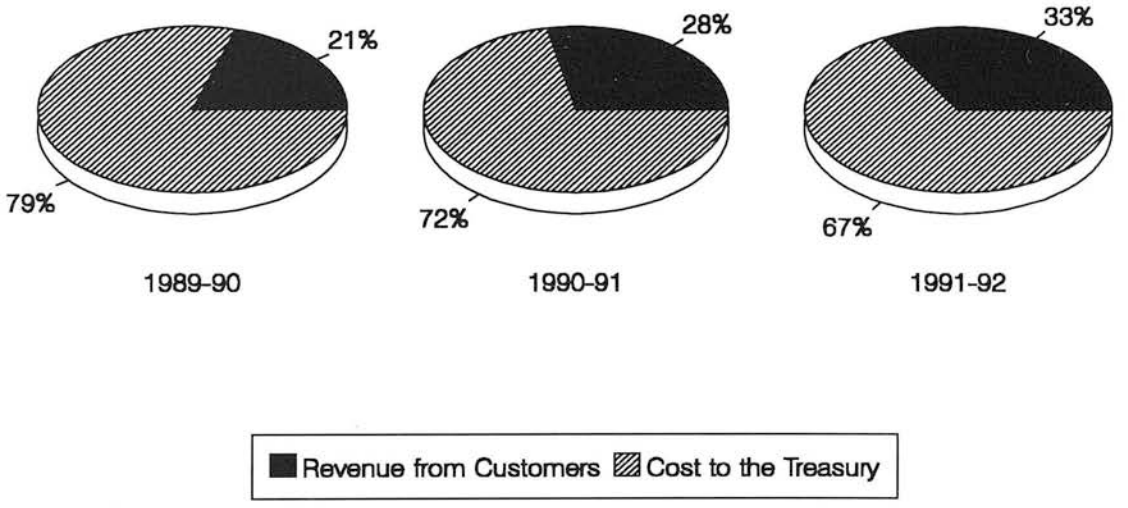
Of the total ADAS time in 1990, approximately 25 per cent was spent on chargeable advice and four per cent on free advice to the agricultural industry, the remainder was taken up by activities such as market development, statutory work, research and development, administrative and other work, and holidays (NAO, 1991). It is interesting to note that according to ADAS estimates the corporate market accounts for approximately 30 per cent of total revenue.

ADAS structure and size changed significantly again in 1990. In April 1990, the Central Veterinary Laboratory and the Veterinary Medicines Directorate were established as executive agencies. At the same time horticultural experiment stations were transferred from ADAS to the responsibility of the British Society for Horticultural Research, and in August 1990, the State Veterinary Service was transferred to the MAFF's Food Safety Directorate (GB Government, 1991).

In 1990, a further step was taken towards decreasing government involvement in the provision of advice to agriculture. The intention to create two separate executive agencies from the remainder of ADAS by 1 April 1992 was announced (GB Government, 1991). In April 1992, ADAS obtained the status of an Executive

Agency of the Ministry of Agriculture, Fisheries and Food and the Welsh Office, thus becoming responsible for its own budget (Dancey, 1993). The executive agency, still called ADAS, combined the Farm and Countryside Service and the Field R&D Division of the Research and Development Service. The other executive agency was set up on the basis of the Central Science Laboratory. This step was in line with general government policy, adopted in 1988, to place duties on executive agencies in order to achieve higher efficiency and cut public expenditure (OMCS, 1988).

Figure 4.12.
Proportion of Revenue in Covering the Full Cost of Chargeable Advice in ADAS



Source: UK Government (1992, 1993)

Effectively, ADAS became a consultancy that served clients for fee. The role of the new ADAS agency was defined in its Framework Document (ADAS, 1992):

> *"ADAS provides a range of services to clients including government, local authorities and the agricultural and related industries. These services include:*
>
> *(a) the supply of consultancy, advisory and information services:*
> *- to Government, providing up to date technical intelligence and advice;*
> *- on behalf of Government, furnishing general advice to the agricultural community as required by the Departments;*
> *- to private or public sector clients on a fee paying basis;*

(b) the provision of research and development services to Government, the levy-raising bodies and the agricultural and related industries;

(c) to conduct statutory and regulatory work for the Government."

The financial targets were set on a "net running costs" basis as opposed to the earlier arrangement, where separate targets were set for revenue and costs. This gave ADAS more flexibility. Also, as far as the mechanism of allocating public funds is concerned, the resources ceased to be voted directly for the disposal of ADAS. Instead, they were allocated to policy divisions within the respective government departments in order to develop client-contractor relationship between MAFF and the Welsh Office on one side and ADAS on the other (Dancey, 1993).

From 1992 onwards, the work undertaken on behalf of MAFF, for MAFF, as well as for the Intervention Board, is charged by ADAS to the respective organisations at full economic cost. The work to be done, the resources and the charging arrangements are specified in Memoranda of Understanding between the parties concerned. First Memoranda were signed for 1991-92 covering advice on pollution and conservation and the Conservation Awareness and Advisory Campaign (GB Government, 1992).

ADAS performance targets for 1992-93 include several standards for improved efficiency, quality and cost reduction. An objective of 41 per cent (50 % by 1993-94 and 100 % in long term) recovery of full economic costs of chargeable advice from customers was set (GB Government, 1993). An overall cost recovery target is set for 59 per cent in 1994-95 (outturn for 1990-91 29.7 %). A further possible change of giving ADAS the status of a Trading Fund by April 1994 has been indicated (GB Government, 1992 and 1993).

It was considered desirable to compile a time-series showing how the amount of public funds, allocated to financing agricultural advisory work, has changed since the establishment of the national public advisory service in England and Wales. Considerable difficulties emerged in determining such long term developments. These difficulties became apparent when data were gathered from yearly Civil Appropriation Accounts of the British Parliament. The data proved not suitable for compiling a continous time series reflecting the public funding of ministerial advisory and research services in England and Wales. The difficulties are due to continuous reorganisations, mergers and separations within the various MAFF

organisations providing advice as well as to changes in reporting format and fund allocation procedures. Also, beside the provision of advice to farmers, ADAS and its predecessors have had to perform other duties, such as research and development (R&D), and statutory work for which the funds were voted together under the heading of ADAS. Less than a third of ADAS human resources have been deployed in advisory work (MAFF, 1979; MAFF, 1984). Therefore, the aggregate figures for ADAS, regarding staff numbers and finances, do not reflect changes in advisory work but changes within the institutions and in accounting/reporting procedures.

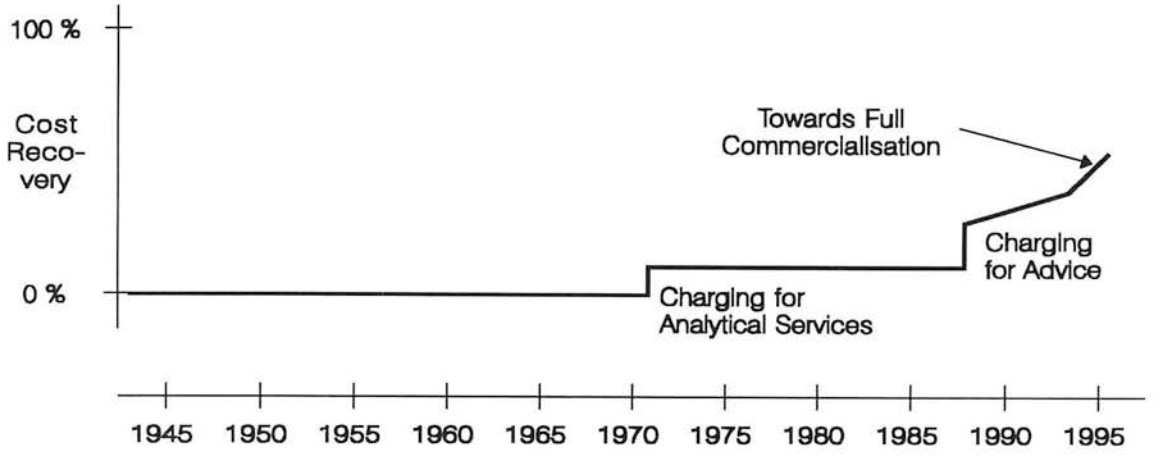
Nevertheless, the data regarding public fund allocation to advisory services for Scotland, published in the reports SOAFD annual reports on Scottish agriculture (e.g. SOAFD, 1991) are sufficiently specific to allow for a long term time series to be compiled (see Figure 4.15 in Section 4.2.3). There is every reason to believe that the trend for England and Wales has been similar to that in Scotland as the changes have originated from the same policy decisions. Therefore, it can be assumed, that in broad terms the changes in the level of funding of advisory work in England and Wales have been similar to those in Scotland.

As no precise long-term data were available, it was decided to summarise the development in public financing of advisory services by indicating the main changes in cost recovery from users in a schematic way as shown in Figure 4.13. For the first period since the war until 1971 the advisory services were fully funded by the government (Cost Recovery or CR = 0%). During the period, reorganisations were made within the services to achieve better cost efficiency, but funding was provided by the government throughout. In 1971, a major reorganisation was undertaken which resulted in creation of a comprehensive advisory and development service, ADAS, that replaced the organisations that existed before. At this time, it was questioned whether charging should be introduced for provision of advice. Charging was introduced only for specific design and laboratory services. Discussions on the issue continued and more specific action resulted after the Bell Report (MAFF, 1984). Charging for advisory services was started in 1987 and since then several further steps have been taken to commercialise ADAS. Currently, the direction has been taken towards full recovery of the costs (CR = 100%) of advisory work and perhaps eventual privatisation of the Service.

Figure 4.13.

Schematic Illustration to the Developments in Cost Recovery of Public Advisory Services

England & Wales, Scotland



The summary in Figure 4.13 also holds true for the developments in Scotland as will be shown in next Section.

4.3.3. Origins, Organisation and Financing of the Public Advisory Services in Scotland

Public advisory services in Scotland evolved until 1987 within three separate Agricultural Colleges. In 1987 the three colleges were merged resulting in the establishment of The Scottish Agricultural Colleges. Further unification took place in 1990 and since then the institution is called The Scottish Agricultural College which has three centres of study. The advisory services in Scotland have never been a part of the ministerial apparatus as is the case in England and Wales. The government has financed the provision of advice in the colleges by allocating grants. Thus, changes in the level of financing have followed a path similar to that in England and Wales as the origins lay with the same Government.

The three colleges were located in Aberdeen, Ayr and Edinburgh and servicing respectively Northern, Western and Eastern parts of Scotland. The colleges worked in close contact with the departments of agriculture of the Universities of Aberdeen, Glasgow and Edinburgh respectively. The territorial division is historical, and based on the diversity of climatic, topographical, socio-economic conditions affecting agriculture and rural life in the three parts of the country.

The early developments in the Scottish System have been reviewed in detail in the Report of the Departmental Committee headed by Lord Constable (Constable Report, 1924). The colleges as such were incorporated at the turn of the century to take over the functions of the centres of training that had developed (West of Scotland College in 1899, Edinburgh and East of Scotland College in 1901 and North of Scotland College in 1904). Each College had a number of counties associated with it. The Colleges had three functions:

(1) to provide practical and scientific agricultural training;

(2) to serve as an advisory centre for their areas; and

(3) to organise agricultural instruction/advisory work in the associated counties.

Colleges were funded by tuition fees, government grants and local contributions. State grants formed 62.3 per cent in 1912-13 and 77.4 per cent in 1923-24 of the total income of the colleges (Constable Report, 1924).

Extension work in the counties was carried out by county organisers who:

(1) provided systematic short courses of lectures;

(2) gave practical advice and assistance to lecturers; and

(3) conducted experiments and demonstrations.

At the time of the report there were 73 county staff between the three Colleges consisting of county organisers, instructresses and lecturers on bee-keeping, poultry and horticulture. The report recommended to expand the advisory activities of the Colleges.

In 1944, the Committee chaired by Lord Alness (Alness Report, 1945) studied the Scottish information and knowledge system and recommended with regard to advisory services:

(1) that the advisory services should remain provided by the Colleges (it was questioned if a separate national advisory organisation should be set up along similar lines to those being proposed for England and Wales);

(2) to increase the number of county organisers and specialist instructors;

(3) to make the work of advisory services more widely known;

(4) that the cost of advisory services should be met in full from the government funds.

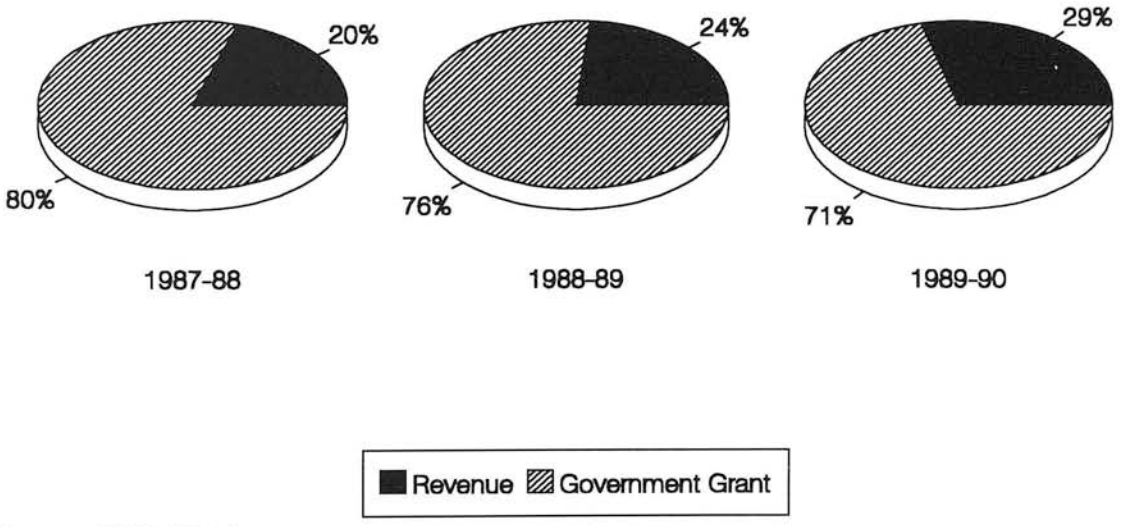
According to the report of the Williams' Committee (Williams' Report, 1989), there were no major changes in the organisation of the Scottish Advisory services between 1947 and 1971. In 1971, the Government pressed for greater cost efficiency of advisory services and for withdrawal from areas where services were available from the private sector. As a result more attention was paid to group methods, and publications. The number of local offices and advisers was reduced and charges were introduced for laboratory and analytical services. According to the information obtained from the SAC management and from the annual reports of the East of Scotland School of Agriculture, charging for some of the analytical services was abolished soon after introduction as it was found to be impractical for several reasons. Among the reasons was that the number of samples brought for analyses by farmers had fallen to the extent that the analytical base for the work of crop advisers became too limited.

Over the years after WW II, there has been a drive towards greater coordination in advisory services. The need for greater coordination was already expressed in the minority reservation by Mr Joseph Duncan of the Alness Committee (1945), and it started materialising with the establishment of the Council of Scottish Agricultural Colleges (COSAC) in 1974 (Williams' Report, 1989). An all-Scotland service became a reality in 1987 with the more formal unification of the management of the Colleges and establishment of the private limited company "Scottish Agricultural Colleges" (Williams' Report, 1989). Advisory Services and Veterinary Investigation Services began operating on a common commercial basis throughout Scotland, beginning on 1 April 1987. In April 1990, a further integration took place following the recommendations of the Williams' Report. The Scottish Agricultural College was set up as a single corporate structure with operating centres of study at the locations of the three colleges (SOAFD, 1991).

Charging for advisory work was introduced at the time of the 1987 reorganisations in the Colleges. Figure 4.14 illustrates the development in the proportion of revenue in meeting the total cost of advisory work of SAC. To demonstrate the development in the level of grants from the Government to Scottish Agricultural Colleges in the long term a time series, shown in Figure 4.15, was compiled on the basis of the data published in the annual reports on Scottish agriculture (e.g. SOAFD, 1991).

According to the survey carried out by the National Audit Office (NAO, 1991), the College provided 69 per cent of the volume of chargeable advice in Scotland in 1990 and 46 per cent of farmers had paid for advice during a previous twelve month period.

Figure 4.14.
Share of Different Sources in Funding of SAC Advisory Services

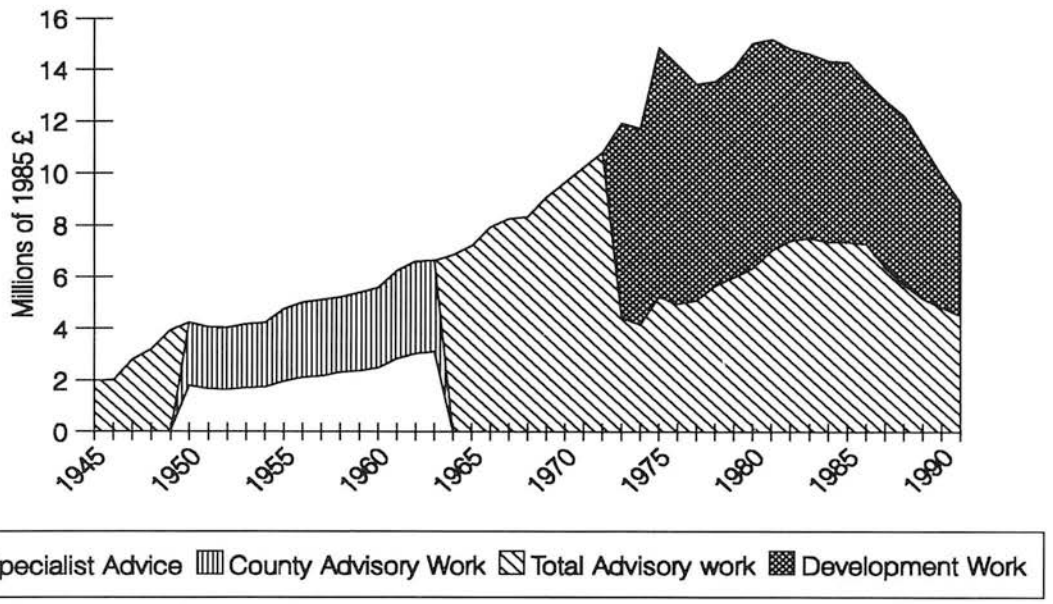


Source: NAO (1991)

Figure 4.15.

Government Grants to Scottish Agricultural Colleges for Advisory & Development Work

At Constant 1985 Prices



Source: Agriculture in Scotland, various issues

Note: Variatons in classification in different periods reflect changes in grant allocation procedure

4.3.4. Developments in Subjects of Publicly Provided Advice in Great Britain

In this Section, the main developments in the subjects of publicly provided advice are described. The description is based on information and statements gathered in this study by conducting three open in-depth interviews (see Section 3.3.2 and Appendix A) with persons who had worked on senior positions in such organisations at different periods and by studying various official reports regarding the public advisory services as well as other published sources.

The discussion is divided into Sub-Sections according to different kinds of advice:

(1) technical advice;

(2) advice on farm management;

(3) marketing advice;

(4) socio-economic and diversification advice; and

(5) advice on CARE issues (CARE, as defined by McInerney (1984), represents conservation, amenity and rural environment).

Another subject area - rural development - could be added which, concerned with broader issues than agriculture, tends to be only marginal to agricultural advisory services. In the United Kingdom, the broader rural economic development, as long as it is not directly linked to agriculture, concerns a wider range of public and private institutions, e.g. local authorities, enterprise trusts, etc. With the decline of agriculture's role in the rural economy, an increasing involvement of agricultural advisory organisations in issues of broader rural development can be expected (HMSO, 1989; RASE, 1991).

Technical Advice

According to the Director of NAAS (Jones, 1965), during the first ten years of NAAS existence the efforts were concentrated on research and advice of a technical nature. Foodstuffs were in short supply and rationing was still in force. During the immediate post WW II years, it was in the best interests of both, the Government and the farmers, to achieve growth in agricultural output. The activities of NAAS in this period involved (Jones, 1965):

> *"... determining the plant food levels of soils, parish by parish; new crop varieties were tested under varying conditions of soil and climate; information on new methods of weed and pest control was disseminated on a nationwide scale, and considerable efforts were made to raise the productivity of grassland through better management and conservation* [of fodder] *and more efficient utilization."*

Technical advice has continued to be important throughout the existence of public advisory services. It has become increasingly specialised (Dancey, 1993) and based on research and development work. Technical advice, first carried by a drive to increase output, then to increase productivity, is still important under conditions where increased farm income can be achieved only through higher productivity and added value.

Farm Business Management Advice

Jones (1965) also wrote with regard to the late 1950's and early 1960's:

> *"Agricultural economics and management analysis have become just as important as, and certainly more urgent than, the rotation of crops and soil analysis"*

This tendency resulted from the increased capital requirement of farming and the fact that expansion of output was not necessarily accompanied by increased farm income. Farmers needed the skills of optimising resource allocation as the market had became more demanding in regard to choice of food and quality.

Two in-depth interviews, carried out with senior managerial personnel regarding the public advisory services in Scotland, confirm that up to 1965 the advice was "led technically", based on the improvements in technology (intensive farm mechanisation, increased use of artificial fertilisers, improved varieties etc.). The farm business management advice gained pace in the middle of the 1960's.

In 1963, the first farm management advisers in NAAS were appointed at the regional level (McCann, 1987) and a similar development was reported in Scotland (OECD, 1963 p. 53). NAAS had been training district advisers in farm management techniques since 1953 (McCann, 1987) and a specialist farm management department was organised in 1964 (OECD, 1965b and 1969). The development of farm business management advice gained support from two

government schemes that encouraged farmers to keep records and pay more attention towards increasing their businesses' viability.

The Small Farmers Scheme (1959), revised and renamed in 1965 as the Small Farm (Business Management) Scheme, originally encouraged farmers to improve the management of their farms. After a revision, the scheme incorporated farm record keeping and use, budget forecasts and budgetary control as an essential part of the programme that participating farmers undertook over three years (OECD, 1969). The Farm Business Recording Scheme, established in 1966, provided financial incentives for farmers to keep records and have them processed. Record keeping activities provided the necessary base information for finding the ways in which the existing farm practices could be made more efficient.

The increased emphasis on farm management advice is consistent with the change in the agricultural policy objectives towards achieving greater efficiency and higher incomes on farms. The pressure for improved efficiency developed with the reduction of farm incomes and agricultural support and so did the need for farm management skills. In adjustment to this change in the policy objectives, the support from farm business management advisers in improving the decision-making on farms and in developing farm management strategies was very important.

One of the interviewed managers of the Scottish advisory services indicated that the importance of farm management advice has grown ever since it started. In his opinion, one of the main reasons for this was the extensive borrowing by the farmers during the optimism of the 1970's. When the economic conditions of farming worsened, the burden of loans became an additional pressure on farms. It became necessary to manage the farm resources as efficiently as possible in order to survive and to pay back the loans. The difficulties culminated in 1985, a year with a very bad harvest. Since the difficulties started the amount of financial and business advice given by the public services increased considerably. The importance of financial advice has increased in relation to technical advice. Also, the relationship between financial and technical advice has changed. The financial problems have lead to giving different technical advice and maximising the efficiency of farming systems.

Marketing Advice

Another aspect of farm management and a resource for increased farm incomes is improved marketing. An OECD publication that concentrated on agricultural marketing advice (OECD, 1965a) stated that no specialist agricultural marketing unit has been set up in NAAS. The report indicated that more emphasis had recently been placed on the need for farmers to study market requirements. According to the report, advisers gave support to local voluntary marketing groups but did not get directly involved in running such groups. They supported the establishment of the groups and helped to analyse the performance. With regard to Scotland the report indicates that public advisory services did not get involved in the provision of advice on marketing.

The improvements in agricultural marketing in the United Kingdom were supported by grants under the Market Development Scheme (1962-1971). Grants were available for activities in several areas encompassing market research, product improvement, marketing information communication, promoting efficiency of producers marketing organisations. Such grants made it more attractive to producers to improve marketing which was likely to increase the use of advisers in related issues.

Socio-Economic Advisory Work and Advice on Diversification

The development of policies of structural change in agriculture and implementation of arrangements for socio-economic advisory work in the United Kingdom are presented in detail by Jones (1977). Specific steps for developing socio-economic advisory work were triggered by EC policies and legislation.

In 1972, the Commission passed three Directives addressing structural problems of agriculture. As the policy measures, that had concentrated on prices and marketing arrangements, had not satisfactorily achieved the objective of ensuring good living standard for farmers, set in the Treaty of Rome, the policies were altered to create farm enterprises of adequate size. This would involve some people leaving agriculture and others increasing the size of their enterprise.

The Directive 72/161/EEC laid down, among other measures, that Member States must set up schemes designed to provide the persons involved in agriculture with information to enable them to make, with full awareness, decisions on how to improve the viability of their farming activities or on whether they should retire from agriculture, thus making it possible for others to improve the size of their enterprise.

Following several years of discussions and bureaucratic delays, ADAS appointed specialist socio-economic advisers and advisers with "special interest" in socio-economic matters. After receiving training the advisers started working early in 1975 (Jones, 1977). Originally, in England and Wales, there were approximately fifty socio-economic advisers, and in Scotland, one specialist at each College supported by county advisers. According to one of the specialist advisers in socio-economic issues, the work on this subject peaked in around 1980 and was virtually stopped at the time of introducing charges to the advisory services (1987) as socio-economic advice was not listed amongst the subject areas to receive public support.

In a way, the advice on farm diversification is a continuation of socio-economic advisory work. Diversification of the economic base of rural communities has become a major social and economic priority of rural policy making as agriculture's labour requirement has decreased significantly with increased efficiency on farms, growing farm size (see Figures 4.3 to 4.4) and also because of restrictions on agricultural output. The attention has turned to farm diversification as a result of the social implications of these developments.

The legislative base for the provision of advice on matters of diversification by public agricultural advisory organisations in Britain was provided by the Wildlife and Countryside Act of 1981 cited in the next Sub-Section. Provision of advice on diversification gained pace with the establishment of the Farm Diversification Scheme in 1988 together with which, funds were made available for advising farmers free of charge. Four years later, MAFF (MAFF News Release 354/92) announced: "*As diversification is now a well established feature of farm business, the special package of assistance for farm diversification which has operated since 1988, providing free advice and grants will be withdrawn*". The Scheme, as well as public funding for relevant advisory work, were discontinued as from January 1993, thus effectively introducing charging for advice on diversification.

Advice on Conservation of Nature and Countryside

The Wildlife and Countryside Act 1981 placed upon Agriculture Ministers the duty to arrange free of charge provision of:

(1) *"advice to persons carrying on agricultural business on the conservation and enhancement of the natural beauty and amenity of the countryside"*, and also

(2) *"advice to such persons on diversification into other enterprises of benefit to the rural economy"*.

Thus, the Countryside and Wildlife Act of 1981 established a must for provision of advice on issues of protection of environment, landscape and countryside, and on diversification as already mentioned above.

In England the advisory work on conservation started much before the 1981 Act on Wildlife and Countryside. It also started earlier than in Scotland. The initiation of environmental advisory activities gained pace after the conference in Silsoe, called Silsoe Exercise, in 1969 (Barber, 1970; Carter, 1981) which aimed at achieving a dialogue between farming communities and conservationists. Barber (1970) quotes from the speech of the Minister of Agriculture, Fisheries and Food, the Rt Hon Cledwyn Hughes, on 21 January 1970 in London: *"I intend to introduce more emphasis on the opportunities for conservation in the training of my advisory services. New courses designed to achieve a broader understanding of conservation management and its relationship with farming practices are already being planned"*. Eight courses took place in 1970 giving training to approximately 400 NAAS and Agricultural Land Service advisers. The Farming and Wildlife Advisory Groups (FWAG) were started to foster discussion between farming and conservation interests, both locally and nationally. The National FWAG had members from a wide range of public and private organisations including ADAS. The first Farming and Wildlife Advisory Group on a county basis was created in 1972, the number increased to 14 by 1977 and 38 by 1981 (Carter, 1981). The increase has continued, especially in the numbers of advisers employed, with some slow-down in the early 1990's due to financial difficulties (Todd, pers. comm.). In 1993, the public financial support to conservation advice shifted from ADAS to FWAG (MAFF News Release 354/92).

In Scotland, the responsibility for advice on conservation issues was placed on the Scottish Agricultural Colleges. They worked out several options of which Farming and Wildlife Advisory Groups was the one which was taken up. The first FWAG in Scotland was established in 1982. The Colleges also provided courses for the front line agricultural advisers on nature and landscape conservation issues in order to achieve a change in the advisers' attitudes. The responsibility for supporting the creation of FWAGs was laid on the three socio-economic advisers that had been appointed in 1975. The funds for FWAGS were originally provided by the Countryside Commission at the level of approximately 50 per cent of the cost with an intention to increase the share of non public funding. Recently the share of funds from local authorities and the farming community has increased, but usually no direct charge is made for advice. An interviewee at the SAC identified that a significant expansion in FWAG advisory activities took place in 1986-90 as more advisers were appointed.

Advice on animal welfare is another subject area which is similar to conservation advice in the sense that they both reflect the public's concern about how food is being produced. The Agriculture (Miscellaneous Provisions) Act of 1968 made it an offence to cause or allow to be caused unnecessary pain or distress to any livestock situated on agricultural land. An increasing number of related regulations have been introduced since the Act. According to an interviewee, who worked in a senior position at the Veterinary Investigation Service of SAC, most of the advice and information on animal welfare is provided to farmers in conjunction with other advisory activities and services, e.g. housing design, nutrition, veterinary services. Therefore, it is difficult to distinguish animal welfare advisory activities as such. The interviewee confirmed that more attention has been paid to the issues of welfare over the 1980's and 1990's.

Concept of "Public Good" Advice

The expression, "advice on public good issues", has come into use in connection with the introduction of charging in public advisory organisations. The provision of advice on some subjects was continued on a free of charge basis as advice on these subjects was considered to benefit the society at large. The information and advice on "public good" issues is delivered by a variety of organisations. Market research

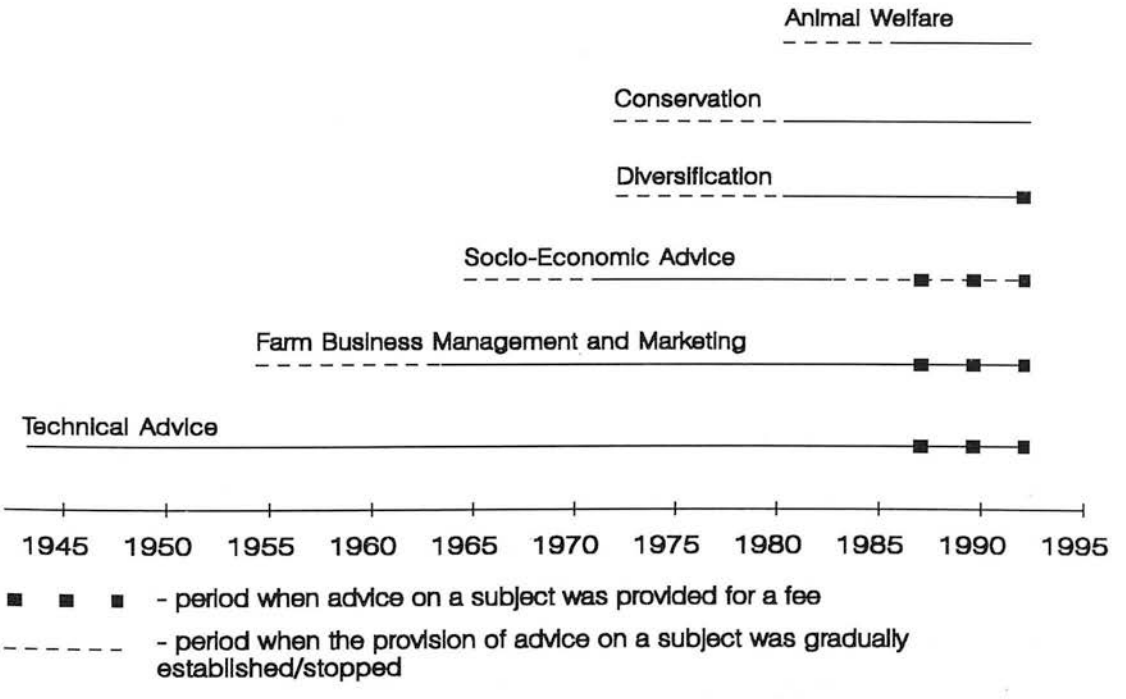
for ADAS and SAC, reported in NAO (1991), showed that in England and Wales 36 per cent of all farmers had sought advice on "public good" issues during the previous 12 months (16 % on pollution control, 15 % on conservation, 13 % on animal welfare and 11 % on diversification). Between one third and a half of the advice was received from ADAS. ADAS provides initial advice free of charge on "public goods" issues. If further advice is required by the landowner or the farmer, a charge is made by ADAS. In Scotland, the College provided 36 per cent of all public good advice (48 % of advice on diversification and conservation, 37 % on pollution and 28 % on animal welfare).

Summary

Figure 4.16. summarises the evolution in the subjects of advice outlining the times when the advice on particular subject was started and the time when charges were introduced for advice on some subjects. The timing is approximate and based on the various publications referred to above as well as on responses from the interviewees in public extension organisations.

Figure 4.16.

Establishment of the Subjects of Advice
in Publicly Funded Advisory Services - Summary



4.4. Private Advisory Services

The discussion of advisory services provided by private organisations is divided among three Sections:

- organisations that supply farm inputs;
- organisations that process/purchase/market farm produce;
- independent advisory businesses.

The first two Sections deal with large organisations and the third covers the smaller operators. For the larger organisations data were collected by means of nineteen open in-depth interviews with persons in managerial positions of advisory operations of the organisations (see Section 3.3.2) and for the smaller businesses by means of a mail survey (see Section 3.3.3). The information presented in the following Secitons is based on primary data collected in this study unless otherwise stated.

There are three major groups of large commercial institutions in Great Britain that have supplied agriculture with advisory services at various times: suppliers of chemicals and fertilizers, suppliers of feed-stuffs and those organisations concerned with marketing of farm produce. The latter group contains organisations that are purely private and institutions that have been set up by the government as organisations that have statutory duties, e.g. marketing boards, Meat and Livestock Commission, Home Grown Cereals Authority.

4.4.1. Farm Input Supply Organisations

The Suppliers of Chemicals and Fertilizers

Altogether three persons were interviewed who had during their career been closely involved in the management of advisory services belonging to two large chemical/fertiliser production companies in Britain. The interviews revealed that the companies started their advisory services during the immediate post war years. The advice was initially related to the supply of nitrogen fertilisers. The objective of providing advice was to demonstrate to farmers how they could benefit from

applying the products that the companies were selling. In support to their marketing and also advisory work some larger companies carried out demonstrations and applied research into fertilizer use.

In the late 1940's, a major fertilizer supplier in England and Wales developed a system of recording physical and financial farm inputs and outputs. The recording was started with dairy farms but later, towards the end of the 1950's, diversified into other types of farms. According to the interviewee, who had worked in the company's development service between 1951 and 1982, the company employed approximately 20 agents across England and Wales in the early 1950's, who had the task to visit farmers, to collect physical and financial information, advise on grass cutting and fertilizer regimes and feeding as well as to organise demonstrations for neighbouring farmers. The company recorded information from approximately 500 farms across England and Wales and published the information in a processed form. The main reason for doing this was to back up the sales of fertilizer. In the late 1960's the introduction of computers enabled the development of more comprehensive financial and technical services and which reached more farmers as well as permitted a reduction in the requirement of staff.

Similarly, in Scotland, another company had by 1955 appointed six Nitrogen Development Officers, but as Nitrogen consumption by farmers grew rapidly, the company reorganised its advisory service in 1959, giving it a much broader orientation. Instead of being involved in only promoting Nitrogen use, the efforts were oriented towards grassland and forage management as well as promoting the use of other new chemicals that became available. The service incorporated financial record keeping that was seen as being necessary for demonstrating the financial benefit from the use of chemical products. Towards the end of the 1960's the technical advisory service that until then had been supporting the interests and enterprises of the company, became more farmer oriented. The farmers were at that time making investments to improve their farms. This resulted in much more attention being paid on the financial aspect of farming business as financing of the improvements became the issue of concern for farmers. Starting from the middle of the 1960's the Company developed a Farm Business Advisory Service that employed six advisers and six recorders. The latter visited farms regularly to record financial data that were used for producing annual management figures that served as a basis for advisers' work. The farm business management advisers demonstrated to the farmers how to improve their financial situation.

According to the interviewee from the company in Scotland, the farm business management advisory service grew too fast from the point of view of the company's interests and as it was not self financing through increased sales charging was introduced for such advice in 1970. As the provision of business management advice to farmers was marginal to the company's interests, it withdrew such services by 1978, but maintained the provision of technical advice related to the products it sold. Some of the individuals who had been working for the business management advisory service of the company established their own consultancy businesses.

The technical advisory service had been manned at constant level of 11-13 advisers throughout the period of 1959 till 1981. In 1982 the Company felt that the profit margins of selling chemicals and fertilisers were reduced with emerging over-production in agriculture. For this reason, the Company decided to reduce the size of its technical advisory service. Attempts were also made to introduce fees for analytical services and advisory visits. The number of advisers was reduced in 1984-85 by half. Three to four years later, the company withdrew completely from providing advice.

Since the early 1980's, the retailers of chemicals and fertilizers started increasingly to offer advice in addition to sales. In one case in Scotland an independent retailer that stocked products of a wide range of producers offered products either together with advice or without. The price of the product varied accordingly. Also, the customer could choose from a range of services from full care of crops and application of chemicals by the retailer throughout the growing season to single operations or "one-off" advice only. The interviewee indicated that there is an increasing number of independent retailers who are offering such services, especially following the withdrawal of services by the producers of chemicals and the commercialisation of public advisory services.

Feed Suppliers

Livestock feed supply companies already provided advice during the WW II. By the 1960's they had developed their own advisory services to support sales. It was a free service for purchasers as an encouragement to buy. The service was given to ensure that feed was used in the correct way, thus giving the best results to the farmers. Originally the service was independent from selling in the sense that separate people performed the two functions.

For example a major feed supplier had in the 1960's an advisory service that employed on average sixteen graduate advisers of whom twelve advised on cattle feeding, seven on pigs and seven on poultry. Their work included all aspects of husbandry: feeding, housing, equipment, costing etc. Most large feed supply groups had an advisory service that was seen as a means of competing for customers. The philosophy of the advisory activities is best expressed using words of the interviewee: *"When the customer bought the feed you gave him the best skills that you could in order to improve his performance"*.

The interviewee who had been head-hunted during his career by several feed suppliers to run and reorganise their advisory services summarised the developments in the advisory services of the feed suppliers: *"As time progressed the advisory wing of most of the feed companies became too expensive for the companies to manage to pay for. In the early days the profitability of selling animal feed was very high and therefore companies could employ very good people and pay them. As the profitability became less and competition got tighter, it became more and more difficult to fund the large numbers of advisers and the numbers started to be reduced"* Also, computerisation enabled the automation of a number of the functions that advisers had carried out previously, such as farm record processing and calculation of feed rations. Advisory work was rationalised to minimise the time and labour consuming activity of collecting information on farm performance from farmers. *"As time went on it again became difficult to fund special advisers who weren't selling any feed and in the end the advisory services were merged with the selling forces and the salesmen had to be advisers as well"*. The merger of advisory services with sale forces started towards the end of the 1960's and was completed by the middle of the 1970's. Thus the advisory services of feed supply companies gradually ceased. In a few cases the product development specialists of the

companies continued to advise on specific issues if the sales staff was not able to solve the problem and the customer was important to the company.

The advice still remained important to feed suppliers and attention was turned to developing computerised feeding systems. In some cases, where the feeding is performed by a completely automated system, the traditional tasks of technical advisers, such as feeding and climate control, have been taken over by computer systems. This development can be found in the most elaborated form in the case of poultry husbandry systems.

Banks

The banks provide farmers with an important input - money (credit). Three representatives of three banks were interviewed. All of them confirmed that banks do not give advice to farmers on how to run their business or on how to use the loans from the banks. The bank employees do discuss with farmers the state of the farmer's business and obtain information about the future plans of the farmer. This activity is seen by the bank as information gathering in order to minimise lending risk rather than provision of advice. The banks started appointing agricultural staff in the middle of 1970's. The main function of the "agricultural" staff was to keep the banks informed about the developments in agriculture as well as to promote their banks amongst the farmers. In some cases, they also assessed loans and farm businesses that had applied for loans, making recommendations to the banks regarding lending decisions. In the case of the banks that are more closely involved in agricultural lending, the interviewees had noted that the farmers have increasingly asked for an appointment with the bank's representative in order to discuss financing of future plans for the farm. In this process the farmers obtain the bank's views on their plans. In this sense, it can be said that the farmers obtain information from the banks. Also, in the process of lending, various forms have to be filled in, in order to assess the collateral and the ability to repay the loan. This is informative to both sides.

Summary

The development of advisory activities from farm input supply organisations in Britain is graphically summarised in Figure 4.17. The following is noted in summary:

(a) the input supply organisations developed their advisory activities in the period when agriculture was encouraged to expand;

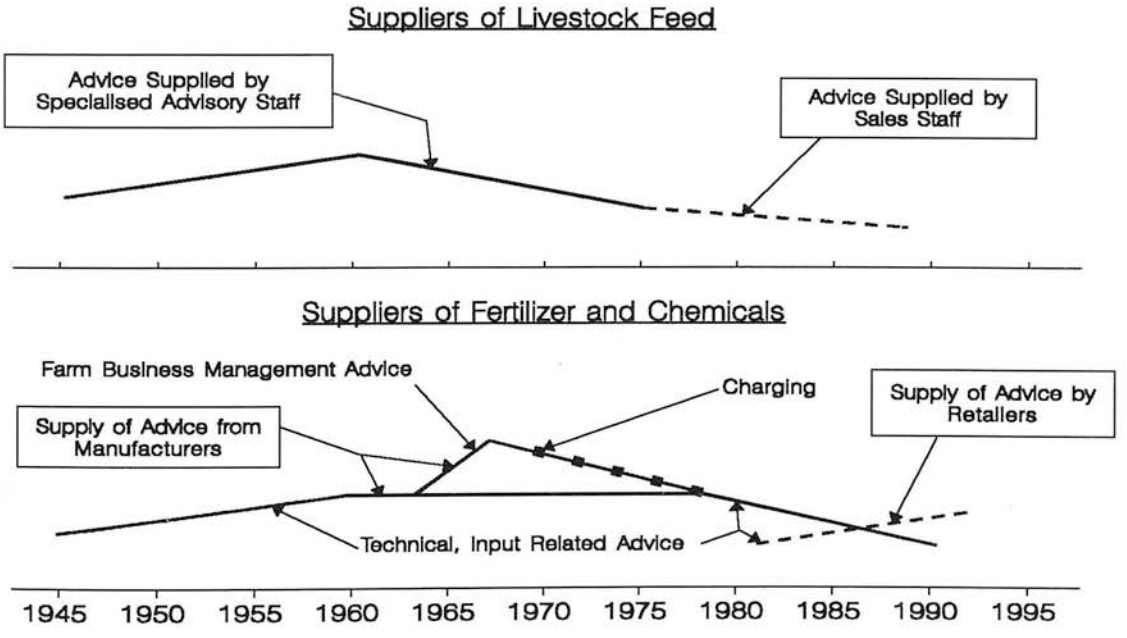
(b) advice has been provided mainly on issues directly related to the use of products supplied by individual organisations. Such related issues include also management advice and performance recording which helps to demonstrate the benefits of using the products sold by the organisations;

(c) with the decline of the speed of growth in agriculture and with the reduction of profitability of agriculture the organisations supplying farm inputs had less scope for maintaining sales. This was a major factor causing the gradual decline in the advisory services that were eventually merged with sales operations.

(d) banks cannot be considered as suppliers of advisory services, although they exchange information with their clients.

Figure 4.17.

Development of Advisory Services from Farm Input Supply Organisations: SUMMARY



4.4.2. Organisations Concerned with Farm Produce

Organisations with Statutory Duties

There are several organisations concerned with farm produce in Great Britain, that are involved in advising farmers. Amongst the largest of them are the organisations that have statutory duties regarding marketing, such as marketing boards and Meat and Livestock Commission.

The Milk Marketing Boards (MMB), were established in 1933 during the depression as compulsory farmers' cooperatives that had statutory power to organise and regulate the marketing activities of milk producers (Anderson, 1978). A senior manager with long experience at the advisory service of the MMB of England and Wales was interviewed. According to the interviewee, the MMB of England and Wales had been providing advice on breeding and technical aspects of milk production for a considerable time before the advisory services on dairy farm management were started in 1963. Since then, the breeding services and management/costing services have been provided simultaneously. Within the farm management/costing service the emphasis was originally on improving the feeding efficiency but it shifted towards financial planning and accounting with the aim to reduce production costs of dairy producers. Over time the farm business recording and consultancy services became available to all farmers, not only milk producers.

According to the interviewee, the number of farm management advisers in MMB grew from approximately 30 in 1963 to around 80 in 1991. It should be noted that the number of management advisers increased despite the reduction in the number of milk producers and in the size of the national herd resulting from increased efficiency and the introduction of milk quotas in 1984. The increase in the number of advisers can be associated with the diversification of advisory activities into subjects other than milk production related issues. In 1989, the advisory services, together with a number of other services such as breeding and artificial insemination, were separated from the MMB organisational structure and became a commercial enterprise owned by the MMB. The company has since further diversified and developed its advisory and information services.

Farmers were charged for advisory and recording services (except for milk recording) since the beginning of business management advisory service, but the service did not have to make a profit as it was supported by the MMB. Since becoming a separate enterprise in 1989, charges are oriented to cover the full cost of advice and to make a profit. In a sense, the advisory service of the MMB has moved towards the category of independent commercial consultancy organisations since the reorganisation in 1989 and should be viewed as not fully typical of the group of organisations concerned with farm produce.

The Meat and Livestock Commission (MLC) was established in 1968 following the 1967 Agriculture Act. A senior manager at the MLC in Scotland was interviewed. The interview provided the following information about the advisory work carried out by the MLC. The MLC has offered a wide range of services regarding meat and livestock production and marketing, among which are advisory and breeding services. Most of the advice has been given on technical matters of animal husbandry, but some schemes also include recording of performance information that is analysed and published as trends in various livestock enterprises. Originally the activities of the MLC, including advisory work, were oriented to increasing efficiency of meat production which was also an objective of the government policy. Since the beginning of over-production and reorientation of government policy in the late 1980's and early 1990's, adaptation to market requirements and marketing in general have obtained higher priority in the activities of MLC. This shift in priorities was related by the interviewee to the reorientation and reduction of public support to meat which is expected to make meat producers increasingly sensitive to market requirements.

In the whole of Great Britain, the number of staff involved in advisory work has declined from 100 in the early 1970's to around 40 in 1993 (the approximate figures for Scotland are fifteen and six respectively). Originally the advisory work was financed mainly by levies on production and processing. A small amount of income was generated from membership fees of various advisory schemes. During the 1980's the balance shifted towards fees for services to the extent of 50 per cent. Currently, the intention is to recover the full cost of advice from fees by 1996 (MLC, 1993). The interviewee emphasised that the current overall attitude of MLC is: if producers do not want to pay for the specific advisory services then such services should not be provided and the funds should be used in other areas, such as marketing and development.

A similar development can be noted in the advisory services of both the MMB and MLC in that the advisory services have become increasingly independent from the statutory/regulatory side of the organisations financially, as fees have been introduced for advisory work in both cases, and in the case of MMB also institutionally as the advisory arm of the organisation became a separate company. This development can be attributed to the emergence of over-production and to the consequent shift in government policies that has caused an explicit incompatibility of interests between the statutory/regulating function and the advisory function of the organisations.

Commercial Organisations

The organisations, which are directly involved in processing of farm products provide advice to growers to achieve the following: (1) to improve the quality of the products in order to meet the market requirements and (2) to have even supplies of "raw" materials to the processing plant for as long a period as possible in order to use the processing resources effectively and to supply to the market avoiding seasonal fluctuations.

Among such organisations are farmers' cooperatives, engaged in preparing farm produce for marketing and actually marketing the produce. A member of the board and an employee of a large cooperative in Scotland were interviewed. The cooperative provided advice of a technical and economic nature to its members, but only in relation to the products concerned (vegetables and green peas). The interviewees confirmed that their organisation does not get involved in whole farm management or farm business management advice. The advice is oriented towards enhancing the quality of the products in order to meet the requirements of purchasers (supermarkets) as well as to improve the timing of supplies to the plant and the efficiency of using the processing facilities.

The cooperative had been established to enable the farmers to have bargaining power against five large national supermarkets. The cooperative obtains orders in advance and then develops a growing schedule that is distributed between the farmers. The farmers are provided with advice and technical support in meeting the

growing schedule. The two interviewees confirmed that their own cooperative and other cooperatives provide their suppliers also with services such as supply of packaging and bulk purchase of seed, planting materials, feed, fertiliser etc. Advice has been provided since the initiation of the cooperative in the early 1970's. The cooperative, and therefore the advisory work, are financed by a commission on throughput. At the time of the interview, the cooperative employed four field advisers and in addition a number of staff were carrying out research into disease resistance and other aspects of the varieties grown by the members. The number of field staff had increased as the cooperative had grown. Both interviewees confirmed that a number of similar processing cooperatives has been established since the early 1970's and that most of them are involved in providing advice information to their suppliers. In recent years several mergers have taken place.

Similarly, a major sugar-beet processor, although not a cooperative, has been providing farmers with technical advice on sugar-beet growing as a part of the supply contract. One of the predecessors of the company had, according to the interviewee, started with technical support to growers in the middle of the 1930's when the company was established. The number of staff involved with farmers has reduced from approximately 130 in the mid-1960's to around 85 in 1993. The reduction has been mainly due to the reduction in the number of growers as a result of increases in farm size and specialisation of farm enterprises. The sugar-beet growers have had free technical support from the processor providing they had entered into a contract. Since the middle of the 1980's, the processor has been offering additional on-going consultancy services to its growers for a fee. This service has been taken up mostly by larger growers. Charges for soil analyses were introduced for all suppliers at the same time as the fee based additional consultancy service was established.

Summary

To summarise the above developments in the provision of advice and technical support to the agricultural producers by the organisations concerned with farm produce the following can be noted:

(a) the organisations in this category have been providing advice mostly on technical but also economic issues of growing/producing the farm product of interest to them;

(b) the provision of advice has become more financially self-reliant, both in organisations with statutory duties and in commercial organisations since the saturation of markets in the course of the 1980's and the commercialisation of public advisory services;

(c) in general the number of organisations in this category has increased as processing and marketing has become more important for farmers, especially since the 1970's;

(d) the number of advisers in individual organisations has reduced as a result of the overall decline in the number of farmers and also because of increasing specialisation which has led to decline in the number of growers/producers of specific products (except in the case of MMB where the activities have been diversified to other fields than the product of immediate interest to the organisation);

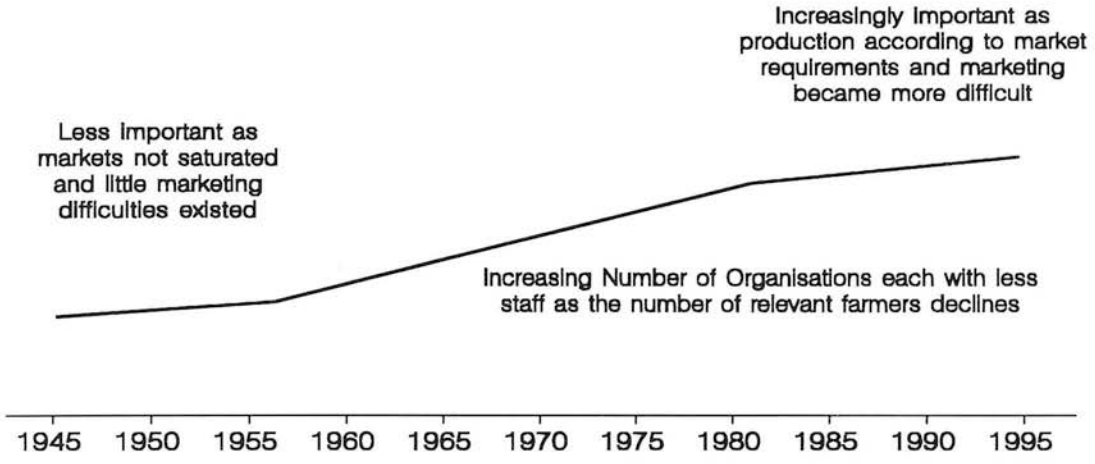
(e) when the developments, expressed in points (c) and (d) above, are viewed together and balanced against the background of the declining number of farmers and the difficulties in marketing, it can be suggested that the organisations concerned with farm produce have assumed a more important role in the Extension Complex of Britain;

(f) when the advisory activities of the organisations belonging to this group are looked at over the whole period from WW II to present time, it can be seen that the nature of advice has changed from suggesting how to grow/produce more to suggesting what to grow/produce and how to grow/produce better, thus reflecting the shift in the market requirements from demanding larger quantitites towards requiring better quality.

An illustration to the above summary points is presented in Figure 4.18.

Figure 4.18.

Development of Advisory Services from Organisations Concerned with Farm Produce: SUMMARY ILLUSTRATION



4.4.3. Independent Consultants and Consultancy Businesses

Individual consultants and consultancy businesses can be classified as "small" advisory operators in the sense that each of them individually is very small as compared to the size of the business of public advisory services or that of merchants. They can be distinguished from the advisers who are employed by agriculture-related merchants on the basis of the fundamental difference in the motivation for being engaged in advisory work. The former run advisory work as an activity that supplements and helps to achieve the best results in their main commercial activity whilst the latter usually do not sell products to which advice is related and therefore they are more impartial.

There are two professional associations of independent agricultural consultants in Britain:

The British Institute of Agricultural Consultants (initially called The British Association of Consultants in Agriculture and Horticulture) was established in 1957;

In 1981, another association of independent consultants was established to specifically bring together crop consultants (The Association of Independent Crop Consultants).

To gather information about the small elements of the Extension Complex, a mail survey of the members of the two organisations of independent consultants was used. The survey objectives and discussion about technical issues of collecting and analysing the data are presented in Section 3.3.3. The form of the questionnaire can be found in Appendix B. Here the discussion is limited to findings only.

The "small" consultancies include a variety of types from sole entrepreneurs to partnerships and partnerships that employ consultants in addition to partners. Out of the total of 131 consultants who responded to the question about the size and type of their business in 1991-93, 65.6 per cent were working as sole entrepreneurs and the remainder, 34.4 per cent, were working in a partnership either as a partner, 23.5 per cent, or as an employee, 10.9 per cent. The largest proportion of those who did not work alone worked for a company with two to five advisory staff (54.5 %). Almost two thirds (60 %) of all the respondents were 46 or older, almost a third (31 %) were aged between 36 and 45 and the rest between 25 and 35.

The number of members in the two organisations at various years was considered to be the best available indicator of change in the number of independent consultants. A time series was compiled on the basis of the lists of members from various years that were made available by the two organisations and is illustrated in Figure 4.19. Although it is difficult to find the precise number of independent consultants in Britain, it can be said with confidence that there has been a continuous growth in the numbers. As can be seen in Figure 4.19, the numbers remained moderate until the middle of the 1970's, following which there has been a significant increase.

In order to complement the information from the lists of members, the respondents were asked in the survey to identify the year in which they established themselves as independent consultants. The responses to this question are illustrated in Figure 4.20. The Figure shows a marked increase in the number of independent consultants in the early 1980's. The increase in the late 1970's and early 1980's has been associated with the following developments*:

- increasing demand from farmers for commercially oriented advice resulting from increases in the size of farm businesses and capital intensity;
- reduction in advisory staff in large commercial agricultural input supply companies in the 1970's, resulting in these individuals setting up as private consultants;
- increase in the use of agrochemicals during the 1970's and 1980's resulting in the need for independent advice on their use on crops;
- individuals establishing as private consultants after leaving the public advisory services as a result of reduced public spending on agricultural advisory work in the mid-1980's;
- individuals leaving already existing firms of independent consultants in order to set up separate consultancies.

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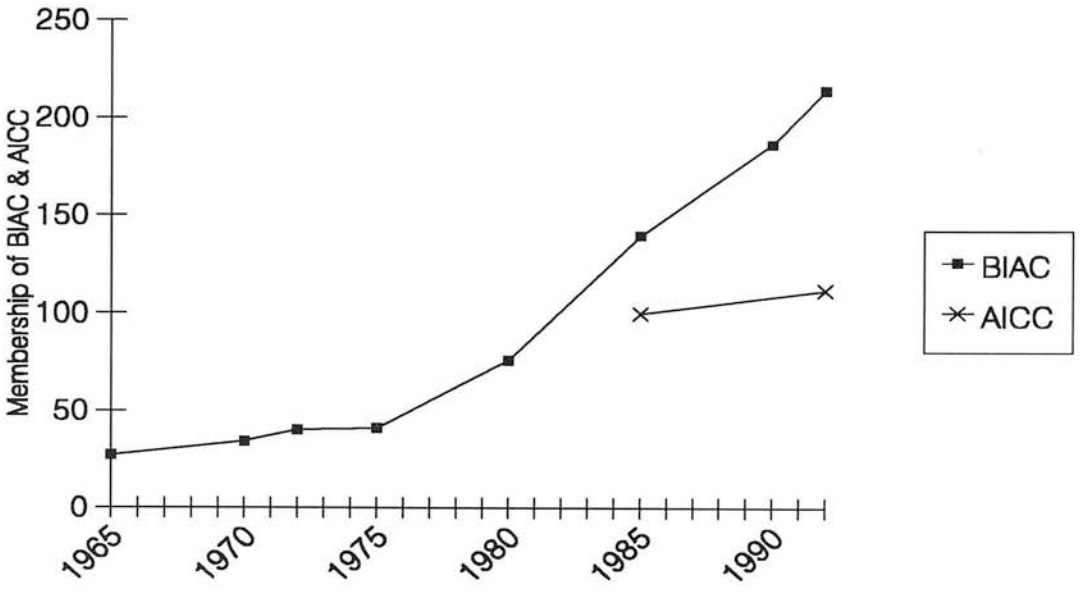
* During the interviews with the representatives of the larger elements of the Extension Complex, already referred to in sections 3.3.2, 4.4.1 and 4.4.2, all the interviewees were also asked for their opinion about when the first private consultants emerged, if/when significant growth in numbers of private consultants took place, and what were the reasons behind such growth.

Figure 4.19.

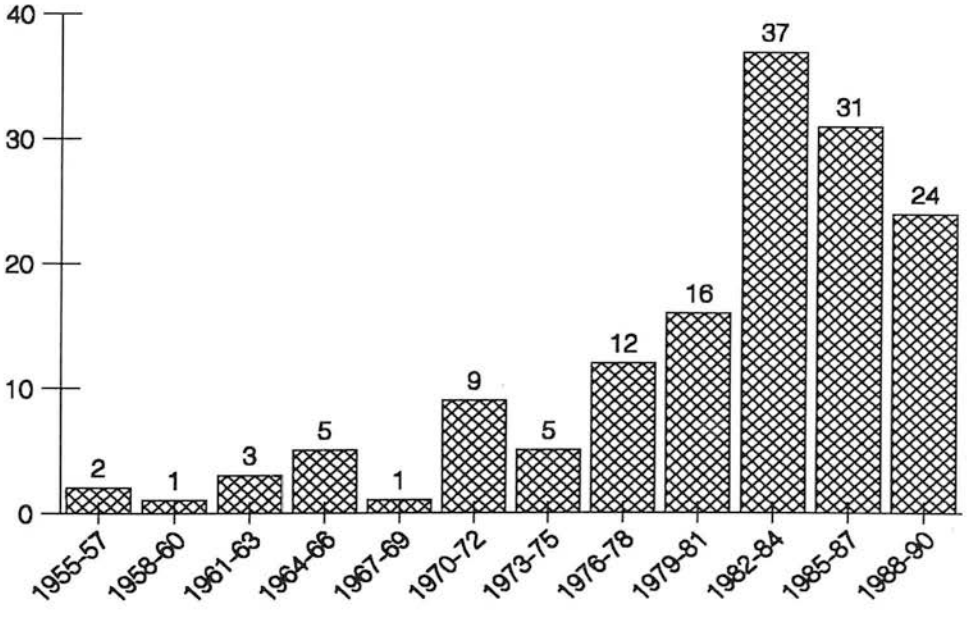
Growth in the Number of Independent Consultants



Source: Lists of Members of BIAC and AICC; various years
BIAC - British Institute of Agricultural Consultants
AICC - Association of Independent Crop Consultants

Figure 4.20.

Year of Establishment of Independent Consultants
Based on responses of BIAC and AICC members questioned in 1991/93



Total number of responses: N=146

The survey of independent consultants revealed that over a third of them had previously been working as advisers or consultants and in addition a fifth had been working for an input supply company before establishing as independent consultants. It is noteworthy that out of the 36 specialised crop consultants who responded to the survey, 39 per cent had been working for a chemical or fertilizer supply company in a position that did not have "adviser" or "consultant" in its title. A typical title contained words such as "technical representative", "sales representative", "crops specialist". These figures suggest that the increase in the numbers of independent consultants does not automatically mean that the total number of advisers in the Extension Complex has increased. This implies that some of the independent consultants have clearly switched from other elements of the Complex. Therefore, it should be borne in mind that the increase in the number of independent consultants does not necessarily mean that the total number of people working in the Extension Complex has increased to the same extent. The responses to the question about last previous occupation and company are categorised in Tables 4.1 to 4.3.

Table 4.1. Last previous occupation/employer of members of BIAC responding in 1991-93

Last Previous Occupation/Employer	Response	Per cent
1. Adviser/Consultant	45	35
2. Farmer/Farm Manager	16	13
3. Employed by a farm input supply company but not as an adviser/consultant	26	20
3a of which by chemicals/fertilizer supplier	*17*	*13*
4. Researcher/lecturer	12	9
5. Student or none	9	7
6. Civil Servant	4	3
7. Various other	15	12
Total responses excluding *3a*	127	100

Table 4.2. Last previous occupation/employer of independent crop consultants (members of AICC in 1991).

Last Previous Occupation/Employer	Response	Per cent
1. Adviser/Consultant	11	30
2. Farmer/Farm Manager	4	11
3. Employed by a farm input supply company but not as an adviser/consultant	18	50
3a of which by chemicals/fertilizer supplier	*14*	*39*
4. Researcher/lecturer	1	3
5. Student or none	1	3
6. Civil Servant	0	0
7. Various other	1	3
Total responses excluding *3a*	36	100

Table 4.3. Last previous employer of those independent consultants who had been working as an adviser/consultant before (Lines 1 of Tables 4.1 and 4.2)

Last previous employer of those who worked as advisers/consultants	Number	Per cent
1. Public advisory service (ADAS/Scottish Colleges)	17	31
2. Milk Marketing Board	5	9
3. A Large Private Consultancy	4	7
4. Meat and Livestock Commission	2	4
5. Various other companies	27	49
Total	56	100

Figures 4.21 and 4.22 together with Tables 4.4 and 4.5* illustrate the subject areas in which independent consultants work. Figure 4.21 and Table 4.4 are concerned with the members of BIAC - an organisation, as already mentioned, with members from a wide range of specialities. Figure 4.22 together with Table 4.5 illustrate the subject areas of the members of AICC, an organisation of specialised independent crop consultants.

* As explained in Section 3.3.3 the percentages presented in Figures 4.21 and 4.22 and in Tables 4.4 and 4.5, show the proportion of respondents ticking against a given subject in the questionnaire.

Figures 4.21 and 4.22 have a dual purpose: on the one hand they illustrate the overall pattern of subjects on which the independent consultants provide advice and on the other hand some changes in this pattern over time can be observed.

In the case of the BIAC, the percentages of respondents ticking against a subject were calculated for all periods (1971, 1976, 1981, 1986 and 1991) and are presented in Table 4.4. However, only the more recent changes, from 1981 to 1991, are illustrated in Figure 4.21. The absolute number of respondents ticking against the given subjects are presented in Appendix Table B1.

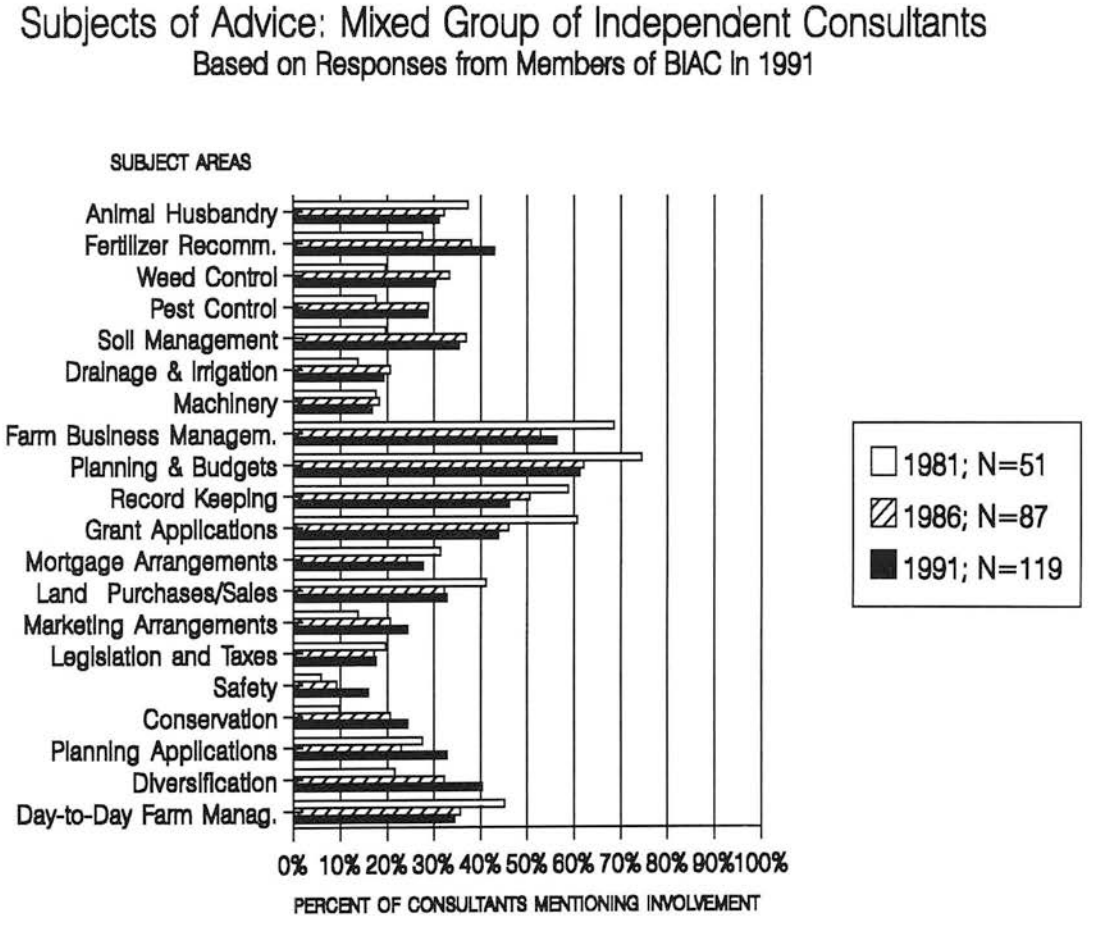
In the case of the AICC, it was considered that because of the very small number of responses for 1971 and 1976 it would be not appropriate to calculate the percentage responses for 1971 and 1976. Therefore, Figure 4.22 as well as Table 4.5 show changes in responses in percentage terms only for the last decade (1981, 1986, 1991). The absolute number of respondents ticking against the given subjects are presented for information in Appendix Table B2.

Special care has to be taken in interpreting the trends shown within individual subject areas. It is important to note that the figures presented are indicating what proportion of the group mentioned the subject and not an indication of the amount of time spent advising on the subject. Whilst the percentage figures show a modest increase or decrease over time, the absolute number of consultants mentioning their involvement in a particular subject has increased in every case as has the total number of independent consultants. Thus, whether the bars show increase or decrease over time depends on whether the number of consultants who considered that they did advise on a particular subject increased faster or slower than the total number of respondents per particular period.

In the mixed group the most common topics of advice are related to farm business management with over 50 per cent of the respondents mentioning issues such as farm business management, farm planning and budgeting, and record keeping. Advice on technical issues of animal husbandry and arable farming is mentioned by approximately a third of consultants and the same applies to more strategic farm management issues such as farm diversification, transactions with land and mortgages. Also, a third of consultants get involved in day-to-day farm management. Over the last ten years, a clear increase can be seen in the group's involvement in advice on farm diversification (from 21 % to 40 %), conservation

(from 9 % to 24 %), safety (from 5 % to 15 %), marketing (from 13 % to 24 %) and in giving fertilizer recommendations (from 27 % to 42 %) as well as other issues of crop husbandry. A decrease can be seen in record keeping (from 58 % to 46 %), grant applications (from 60 % to 43 %) and day-to-day farm management (from 45 % to 34 %). The explanation for the shift in proportions towards a greater proportion of consultants mentioning involvement in crops related advice may lie in the emergence of a number of specialised crop consultants in the early 1980's that may have also become members of BIAC (as the organisation is a non-specialised association of independent agricultural consultants).

Figure 4.21.



BIAC - British Institute of Agricultural Consultants

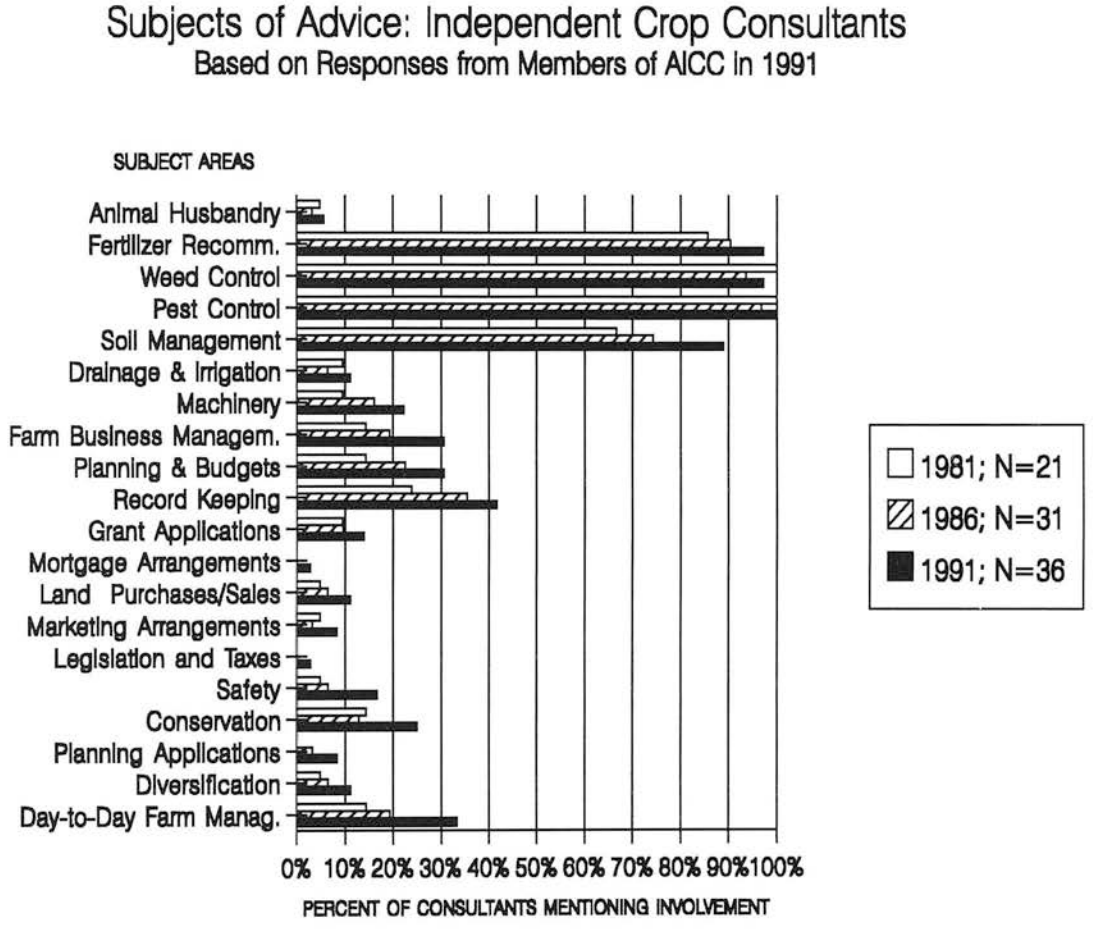
Table 4.4. Subjects of Advice. Responses from the Mixed Group of Independent Consultants (members of BIAC in 1991 - Percentage of respondents ticking against a subject).

Year	**1971**	**1976**	**1981**	**1986**	**1991**
Subjects	*%*	*%*	*%*	*%*	*%*
Animal Husbandry	40	37	37	32	31
Fertilizer Recommendations	30	27	27	37	42
Weed Control	20	10	19	33	30
Pest Control	10	7	17	28	28
Soil Management	15	10	19	36	35
Drainage & Irrigation	10	13	13	20	19
Machinery	20	20	17	18	16
Farm Business Management	60	67	68	52	56
Planning & Budgets	65	73	74	62	61
Record Keeping	50	27	58	50	46
Grant Applications	35	57	60	45	43
Mortgage Arrangements	20	27	31	24	27
Land Purchases/Sales	35	30	41	32	32
Marketing Arrangements	10	10	13	20	24
Legislation and Taxes	10	10	19	17	17
Safety	5	3	5	9	15
Conservation	15	7	9	20	24
Planning Applications	10	23	27	22	32
Diversification	15	17	21	32	40
Day-to-Day Farm Management	35	47	45	35	34
Total Number Responding	**20**	**30**	**51**	**87**	**119**

In the specialised group of crop consultants the pattern (Figure 4.22) is significantly different. As would be expected, almost all the consultants replied that they advise on issues related to crop husbandry such as fertilizer recommendations, weed control, pest control, and soil management. It is a very highly specialised group, but it has over the last 10 years become increasingly involved in general farm business management issues, especially in record keeping. Another area where a

clear trend can be noted is the group's increasing involvement in day-to-day farm management. All the other mentioned areas showed relatively little activity with the exception of safety and nature conservation where the proportion of the group mentioning the subjects has more than doubled in 1991 as compared to 1986.

Figure 4.22.



AICC - Association of Independent Crop Consultants

Table 4.5. Responses from the Specialised Group of Independent Crop Consultants (members of AICC in 1991 - Percentage of respondents ticking against a subject).

Year	**1981**	**1986**	**1991**
Subjects	*%*	*%*	*%*
Animal Husbandry	4	3	5
Fertilizer Recommendations	85	90	97
Weed Control	100	93	97
Pest Control	100	96	100
Soil Management	66	74	88
Drainage & Irrigation	9	6	11
Machinery	9	16	22
Farm Business Management	14	19	30
Planning & Budgets	14	22	30
Record Keeping	23	35	41
Grant Applications	9	9	13
Mortgage Arrangements	0	0	2
Land Purchases/Sales	4	6	11
Marketing Arrangements	4	3	8
Legislation and Taxes	0	0	2
Safety	4	6	16
Conservation	14	12	25
Planning Applications	0	3	8
Diversification	4	6	11
Day-to-Day Farm Management	14	19	33
Total Number Responding	21	31	36

4.5. Summary of the Evolution of the Extension Complex in Great Britain

In this Section, the evolution of various sectors of the Extension Complex in Britain is integrated into a summary framework in which the qualitative developments within the Extension Complex can be observed together with the changes in policy orientation.

The summary, as presented in Figure 4.23, integrates into one framework the summary figures (Figures 4.11, 4.13, 4.16, 4.17, 4.18, 4.19) and the discussion in Sections 4.4.1, 4.4.2 and 4.4.3.

Figure 4.23.

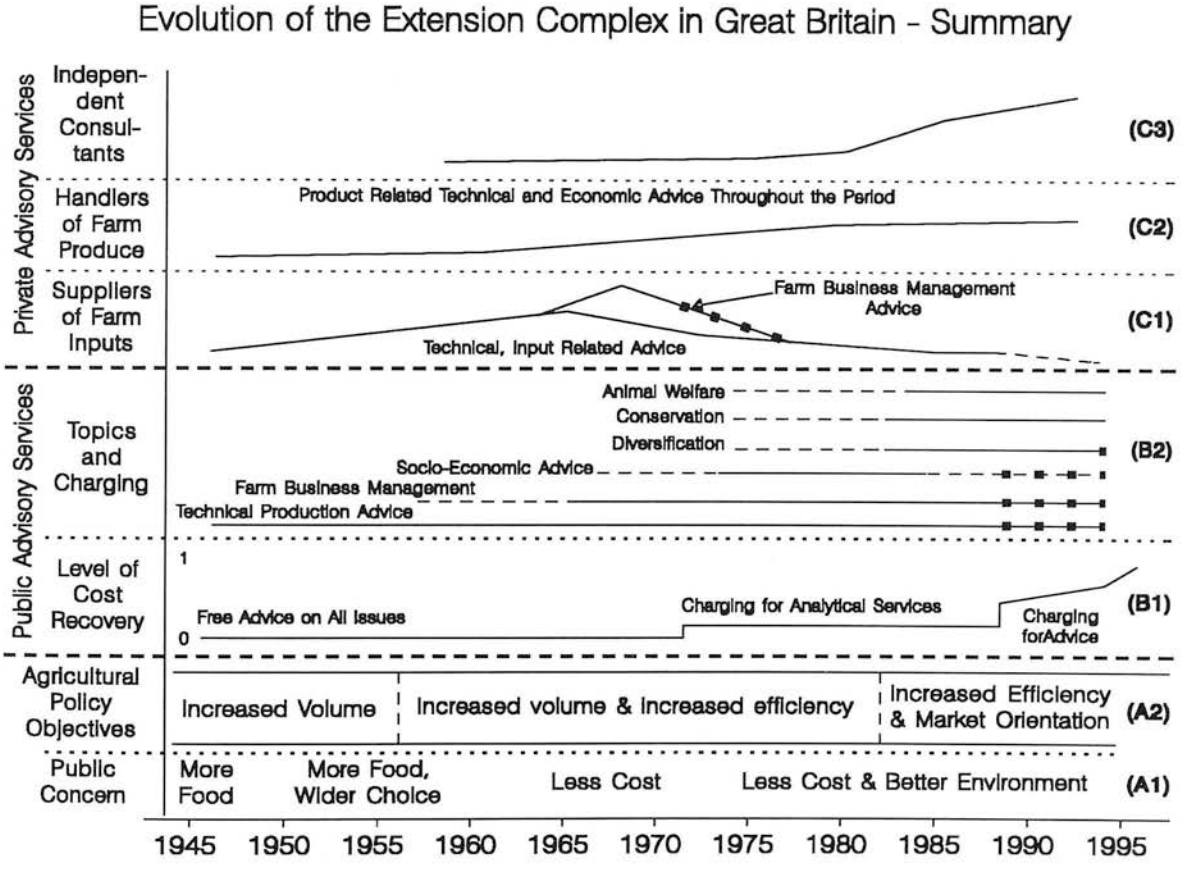


Figure 4.23 presents the summary in three layers, each having sub-layers. The first layer (A) characterises the developments in the political and policy environment of the Extension Complex expressed in issues of Public Concern (A1) and Objectives of Agricultural Policy with regard to production (A2). The second layer (B) shows

developments in the Public Advisory Services in terms of the level of Cost Recovery (B1) and emergence of advisory topics and introduction of charging in the case of some topics (B2). The third layer is concerned with developments in private sector advisory activities (C). Sub-layers C1, C2 and C3 illustrate developments in advice provided by suppliers of farm inputs, handlers of farm produce and independent consultants.

It is possible to see three distinct phases in the course of development of the situation in Britain. In the first phase activities were geared to satisfying the basic demands of the market in terms of volume of supply and thus advice was concentrated primarily on increasing the production.

In the next phase issues of quality, variety and cost of food and agricultural production became dominating. Attempts were made to increase the cost effectiveness of the public agricultural advisory services. The advisory efforts of the services were concentrated on issues of increasing the productivity of farming and the level of income of farmers through more efficient farming systems and encouragement of increase in farm size. The role of input suppliers in providing advice started to decrease, whereas the advisory activities of organisations concerned with processing and marketing of farm produce increased or remained on the level already achieved. Towards the end of the period, a significant growth in independent consultancies can be noted.

The third phase commenced with the emergence of over-production in food. The main priority emerged as that of restoring the market balance. Also issues of balance between nature and agricultural activities became higher on the agendas of public opinion and agricultural policy. Agricultural production related advice and advice on other rural economic activities, supplied by governmental advisory services became available on a fee paying basis. Public funds were redirected to the provision of advice on new issues of importance - environment and to some extent rural development as a means of creating opportunities for alternative economic activities to agriculture in rural areas. This opened the way for commercialisation of agricultural production related advisory activities by other organisations and further development of independent consultancy businesses in a competitive environment. The role of input supply organisations started to decline in the light of the new situation as there was less room for expansion of production and for extensive use of inputs.

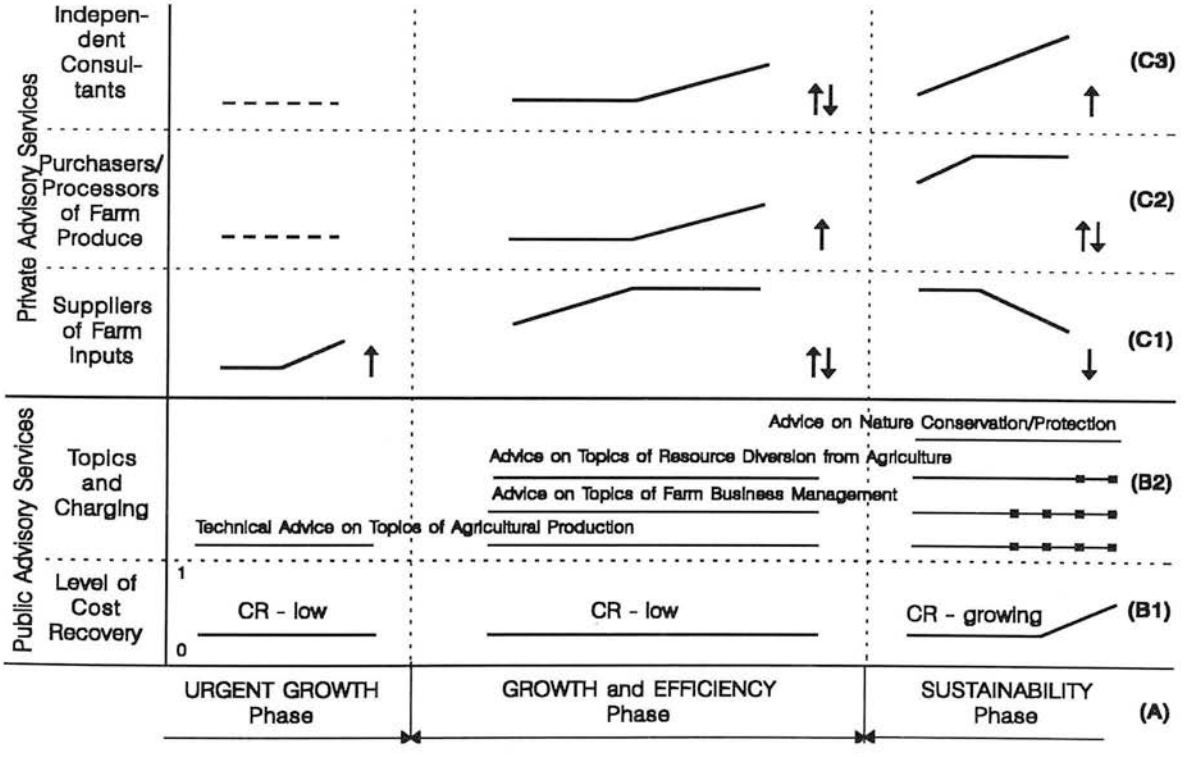
5. EVOLUTION OF THE EXTENSION COMPLEX - CONCEPTUAL FRAMEWORK

5.1. General

In this Chapter of the thesis a conceptual framework of development of extension institutions is elaborated on the basis of the sequence of qualitative changes in the Extension Complex of Great Britain. The Conceptual Framework, presented in this Chapter, will be validated in Chapter 6 of the thesis against the information regarding the evolution in selected Northern European countries.

The Conceptual Framework is illustrated in Figure 5.1 and presented in this and the following Sections of Chapter 5. In its structure, Figure 5.1 is similar to Figure 4.23 consisting of three main layers (A, B and C) with sub-layers.

Figure 5.1.
Qualitative Changes in the Development of Extension Complexes: CONCEPTUAL FRAMEWORK



Layer A characterises changes in the orientation of public interest and policies towards agricultural production and countryside. The public interest and policies

serve as an environment within which the elements of the Extension Complex (layers B and C) and their clients operate.

The evolution of the Extension Complex can be viewed in the light of three major possible phases in the development of the circumstances in the environment of the Complex and its clientele. The phases can be identified as (1) the URGENT GROWTH phase, (2) the GROWTH and EFFICIENCY phase and (3) the SUSTAINABILITY phase:

(1) The URGENT GROWTH phase is a period when a society wishes agricultural production to grow as quickly as possible. The speed of increasing necessary food supplies is of top priority. As soon as the basic demand for food is met, attention turns to adjusting the quality, choice and seasonal availability of food products.

(2) During the GROWTH and EFFICIENCY phase, agriculture is encouraged by society to expand but better resource use, productivity and cost of production become of higher priority for the nation than in the URGENT GROWTH phase. Also issues related to quality of agricultural produce become more important as the phase proceeds. In this phase, agriculture is aiming at improving satisfaction in the domestic market, reducing seasonality of supplies and/or producing for export if natural conditions allow and such markets exist.

(3) The SUSTAINABILITY phase commences with saturation of markets and the emergence of over-production. As the concern about the security of food supplies disappears, the general attitude of a society towards agriculture changes. In this phase, the interest of the society lies in increasing the economic sustainability of agricultural production. Ecological sustainability of agricultural production will become a policy objective as the expansion of production and intensification of farming practices during previous phases have deteriorated the balance between agricultural activities and nature. The economic and strategic reasons for supporting agriculture will be replaced by social reasons for supporting rural communities and protecting/developing countryside and environment. Agriculture becomes increasingly viewed as an industry that has to sustain itself on an equal basis with other commercial activities and not as one that can rely on public financial support. Also,

production systems will have to be adjusted in such a manner that the continuing activities would not erode the basis for production and damage the environment where people live, work and rest.

The change from one phase to another takes place gradually over a period of time. In different countries the duration and sequence of phases are likely to vary depending on natural, social, political and economic conditions.

Layer B is concerned with Public (Publicly Financed) Advisory Organisations, namely with two aspects - (1) the level of cost recovery from users (shown by lines in B1) and (2) the sequence in which topics of advice develop and become subjected to cost recovery from users (shown by lines and text in B2).

As has already been discussed in Section 2.2.1. the public advisory services (layer B) have a dual role in the Extension Complex. They act as an element in the Complex and at the same time they serve as a background to other elements in the Complex since arrangements existing in the public advisory services affect private sector advisory activities. Thus, developments in the public advisory services (layer B) will have to be viewed in the light of developments in agriculture, related policies and public concern (layer A), whereas the private advisory services (layer C) are influenced in addition by the developments in the public sector extension organisations and have to be discussed in a wider background (A+B).

Layer C represents major Private Advisory Services with each sub-layer outlining the change in the level of advisory activities within a different type of private source of advice - organisations supplying farm inputs (C1), organisations concerned with purchasing, processing and marketing of farm produce (C2) and independent consultants (C3).

The symbols shown in the sub-layers C1, C2 and C3 indicate for a particular phase (1) the level of advisory activities in a layer in relation to other phases and the direction of its change (the level is a qualitative indicator expressed with a position (high/low) and a slope of the lines respectively) and (2) the effect that the orientation in the agricultural policies and in public advisory services (layers A & B) have on the scope for providing advice by institutions within each layer expressed with arrows. The exact meaning of the symbols in each case and in each phase is explained more precisely in next Section.

5.2. Qualitative Developments in the Extension Complex

During each of the three phases the Extension Complex has specific characteristics and specific changes take place within it.

5.2.1. The URGENT GROWTH Phase

In the URGENT GROWTH phase the priority will be given to increasing food supplies in order to secure food to the nation.

Layer (B) - Special emphasis will be put on agricultural advisory services by the government alongside other measures to support growth in agriculture. During the URGENT GROWTH phase the *public sector advisory services* have the highest proportion of public funding of all the phases and thus the recovery of costs from the users of advice is lowest (B1). In the circumstances where a nation's food supplies are scarce or insecure, the public advisory services concentrate on provision of technical, production related, advice to farmers, oriented towards increasing food supplies (B2).

Layer (C1) - The policies encouraging growth in agriculture give confidence to *suppliers of inputs* in their prospects of growth. Therefore it is likely that input suppliers will establish and expand their involvement in providing advice. The advisory services will be deployed as a means of increasing the consumption of inputs, competing with other suppliers in acquiring a larger share of the market for their particular inputs. As new inputs are developed, new suppliers become involved in providing farmers with advice and information. Advice is provided normally free of direct charge.

Layer (C2) - *The organisations concerned with processing and marketing of farm produce* will have little impact in this phase. Their role in the Extension Complex is the smallest as compared to their role during other phases as few difficulties exist in marketing the produce in the situation where food is in short supply. Towards the end of the phase, with the disappearance of immediate

shortages the role of such organisations starts to increase as quality and diversity of food become demanded by the consumers.

Layer (C3) - There will be very few or no *independent consultants* as free provision of advice by other types of elements in the Extension Complex leaves very little opportunity for independent consultants who have to make a charge for their services.

5.2.2. The GROWTH and EFFICIENCY Phase

In the GROWTH and EFFICIENCY phase, the cost of production and efficient resource use become as important as growth in output.

Layer (B) - To achieve greater efficiency in agriculture, *the public sector advisory organisations* will start providing advice on farm business management (B2) in addition to technical aspects of farming. In order to produce more efficiently, farm sizes will have to increase. In order to help in this process, advice of a socio-economic nature (included in "Advice on Topics of Resource Diversion from Agriculture" in B2) will be provided to help in decision making about continuation or discontinuation of farming and alternative employment for those leaving agriculture. Public funds will cover most of the running costs of the advisory services throughout the phase. Although first steps may be taken to reduce public funding, it will cover a high proportion of costs and is not likely to decline significantly (B1).

Layer (C1) - The orientation of agricultural policy and production towards greater efficiency will make farmers more conscious about how much inputs they use. This, together with increasing specialisation and the declining number of farmers in general will have an impact towards reducing the scope for maintaining advisory services by the *input suppliers* (indicated in Figure 5.1 with the downwards arrow in C1). On the other hand, expansion in agriculture is encouraged by the policies and this helps to maintain the advisory services (upwards arrow). Also, new inputs are being continuously introduced to the market as progress is being made in science and technology which may be very difficult to select and use and therefore the provision of advice to customers becomes necessary. Generally,

the involvement of input suppliers as a group in provision of advice is high. The balance of "upwards" and "downwards" influences will determine whether their involvement will increase or decline. It is likely that the provision of advice by input suppliers will reach a peak in this phase.

Although the scope for maintaining advisory services gradually reduces for individual organisations as the number of their clients declines, they will continue providing technical advice as long as they see it contributing to their financial performance. Some may develop more general (farm business management) advisory services in order to attract more customers and to gain advantage over competitors. In some cases, with increasing productivity the requirement for farm inputs per unit of output decreases. Also, if a particular input (or a type of inputs) has been available for a period of time, farmers acquire a certain level of expertise and do not require as much advice as they did when the input was first introduced. Therefore, the input suppliers that had earlier established advisory services to back their sales will find it increasingly unrewarding to maintain these services. They will either have to reduce the services or introduce charging. The latter becomes difficult if similar services are available free of charge from other sources (such as public advisory services). If new inputs are introduced there may again be a demand and scope for provision of advice with regard to their use. Inputs of a qualitatively different nature replace each other (e.g. chemicals replace to some extent disease resistant varieties and *vice versa*). Such qualitatively new inputs can become available from organisations different from those that supplied the "old" inputs. Therefore the advisory services of the existing suppliers can not always be used. As a result, less advisory staff will be employed by the suppliers "old" inputs and the sales personnel will be trained to partially perform the duties of advisers in parallel to selling and promotion.

Layer (C2) - In the GROWTH and EFFICIENCY phase, more attention will be paid to providing advice *by organisations concerned with processing and marketing of farm produce* as a result of higher demands on the quality of farm produce and the requirement to reduce the seasonal variations of supplies. These issues will become a priority for the consumers as soon as food shortages disappear and they also form a basis for competitive export. Together, the increasing volume of production (encouraged by policies) and higher demands for quality increase the scope for the processing and marketing organisations to provide advice to farmers (upwards arrow). They will provide advice to farmers in order to improve their

performance through improving the quality and regularity of the supply of raw materials from farms. Advisers will be appointed by a number of organisations each concerned with a specific type of produce (e.g meat, milk, vegetables etc). Most of the advice will be of technical nature but some economic advice may be given in connection with the product concerned. The importance of improving the quality will increase with the emergence of marketing difficulties.

Layer (C3) - The first *small independent consultancies*, mainly in the field of farm and horticultural business management, are likely to be established as commercially viable demand develops for advice amongst the farmers with specific needs. The scope for chargeable advice becomes wider as farm businesses grow in size and become more complex to operate (upwards arrow). With the reorientation of public advisory services towards group methods as one of the measures of achieving greater cost efficiency, the independent consultants will have a growing scope for working with farmers to solve their individual problems. The number of independent consultants is likely to increase as individual input supply companies reduce their advisory staff. The redundant individuals who wish to continue working as advisers set up their own businesses. On the other hand, the scope for growth in the private sector is limited as advice is still available free of charge from the public sector and large commercial organisations in the Extension Complex (downwards arrow).

5.2.3. The SUSTAINABILITY Phase

During the SUSTAINABILITY phase the emphasis is on increasing economic and ecological sustainability of agricultural production.

Layer (B) - Public financing of production related advisory work of *public advisory services* (B1) will reduce significantly as food production takes a lower priority for the nation. Consequently, an increasing part of the cost of running the advisory services will be recovered from the users of advice. Advice on agricultural production related topics in particular will be provided increasingly on a commercial basis (indicated by markers on subject-lines in B2). New subjects of advice will be introduced to the agenda of publicly financed advice such as advice on diversification (included under "Advice on Topics of Resource Diversion from

Agriculture" in B2), nature and landscape conservation, protection of environment and animal welfare (B2). Introduction of charging for advice on some subjects and adding new topics to the agenda of publicly financed advisory subjects reflects the overall change of attitude in the society towards the treatment of agriculture as a commercial activity and separating production policies from social and other measures. Public support (both, in terms of money and public interest) becomes diverted from food production to alternative uses and protection of rural resources as markets for agricultural produce become increasingly saturated.

Layer (C1) - The developments in agricultural policies, in this phase, place further constraints on the use of inputs by farmers (downwards arrow). The farmers will have to continue reducing production costs and will use more farm produced inputs (e.g. livestock feed) in order to compensate for the imposed restrictions on quantities that they can market and for constraints placed on the use of inputs that can pollute the environment. All these developments have a discouraging impact on the turnover of companies supplying inputs and therefore also on the scope for maintaining advisory services. It is likely that the "downwards" influences on the scope for providing advice become dominant in this phase and the level of activity in providing advice will decrease. The input producers as a group will not discontinue providing advice about their products but advice and information will be offered increasingly by their retail sales staff or staff in separate retail organisations, who have been trained accordingly. The main function of this staff is to sell inputs and to a much lesser extent to advise on product use while withdrawing from general farm advice.

Layer (C2) - The advice *from organisations concerned with processing and marketing of farm produce* will remain important as improvement in quality, reduction in cost and development of products for which there is a demand provide a basis for greater economic sustainability of food production including farmers and processing/marketing organisations. The increasing importance of the role that processing and marketing organisations have in providing advice may not be reflected in the number of advisers within individual organisations specialised to a specific farm product. The number of advisers within each organisation is likely to be falling as the number of farmers that each organisation has links with is continuously declining because of the overall reduction in the number of farms and growing specialisation of agricultural production. Organisations in this category will start to provide advice (and other assistance) to their suppliers about how to produce

a specific product according to quality standards set by such organisations and based on market requirements. It may be that some of the organisations start to recover part of the cost of advice from the users either through subscriptions or direct charging.

Layer (C3) - The number of *independent consultants* will increase significantly, especially following the commercialisation of public advisory services. In general, various forms of consultancies will be able to develop during this phase as public influence on the market for advice is reduced with gradual withdrawal of public funding and as demand for specialised advice will increase with increasing complexity of farming (upwards arrow).

6. VALIDATION

6.1. Introduction

In this Chapter of the thesis the Conceptual Framework of Qualitative Changes in Extension Complexes, elaborated in Chapter 5, will be tested against the data about the evolution of the Extension Complexes in relation to agriculture and agricultural policies in Denmark, Finland and the Netherlands. The validation is seeking to establish if the qualitative changes, described in the Conceptual Framework, are supported by data about the developments in the selected countries. The countries were selected in North-Western Europe bearing in mind that the findings of the study will be used in Estonia and thus cultural and climatic compatibility is desired (see also Section 3.1.2).

Chapter 6 is divided into three major sections, one for each country study. In each case, the validation will be carried out:

- first, by describing the developments: (1) in the role that agriculture has had for the nation, (2) in the objectives of the policies with regard to agriculture and rural areas and (3) in the Extension Complex of the country;

- then, these particular developments will be summarised in each case into a scheme in the format used for Figure 4.23, which summarised the developments in Great Britain.

- following this, the described developments will be presented in the format of the Conceptual Framework and compared with the Framework to reveal the differences and similarities between the Conceptual Framework and the Framework built upon the country data.

6.2. The Case of Denmark

6.2.1. Agriculture and the Nation

Physical Background

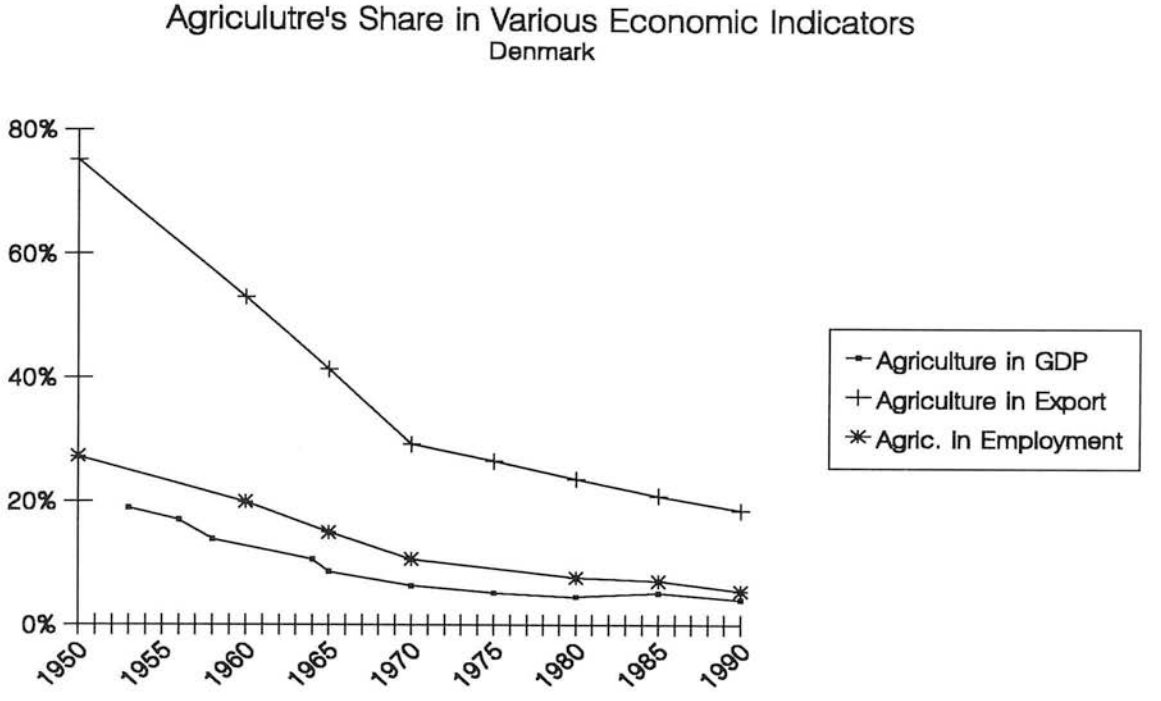
The total area of Denmark is 4,309 thousand hectares. Of this 65.2 per cent was used by agriculture in 1988, 11.4 per cent was woodland, 1.6 per cent was covered with water and 21.8 per cent was used for other, non-agricultural, purposes (Eurostat, 1991). As Denmark is located on several islands and the peninsula of Jutland, the sea has an important role in influencing the climate and creating economic and social opportunities and obstacles. Denmark is located on major waterways between Nordic countries and the rest of the world. The location is also favourable in that the large markets of Germany and Britain are not distant. Denmark has very few extractable resources.

The Importance of Agriculture for the Nation

Agriculture has historically been and still is a very important element in the Danish economy. During the period after WW II the importance has declined considerably. Trends in some parameters that characterise the role of agriculture in the Danish economy are illustrated in Figure 6.2.1. Agriculture's contribution to the Gross Domestic Product has declined form around 20 per cent in the early 1950's to 4.1 per cent in 1990, its share in providing civilian employment declined from over 25 per cent to six per cent and its contribution to the value of total exports fell from approximately three quarters to a quarter over the same period.

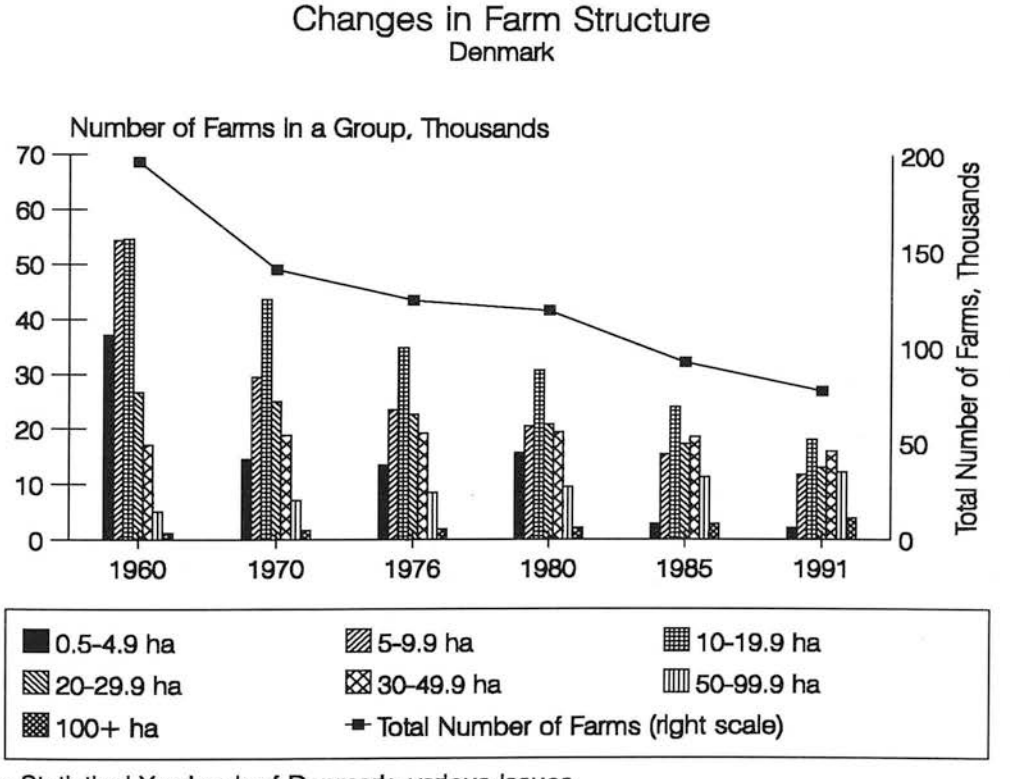
The decline in the relative importance of agriculture to the economy can be attributed to more rapid growth in other sectors of the economy and improvement of productivity in agriculture itself. Farms have become larger in structure (Figure 6.2.2) and reduced their labour requirement. Agriculture has been oriented to exports (Figures 6.2.1 and 6.2.3) therefore it has had a major role in reducing the chronically negative balances of current account and foreign trade (Figure 6.2.4).

Figure 6.2.1.



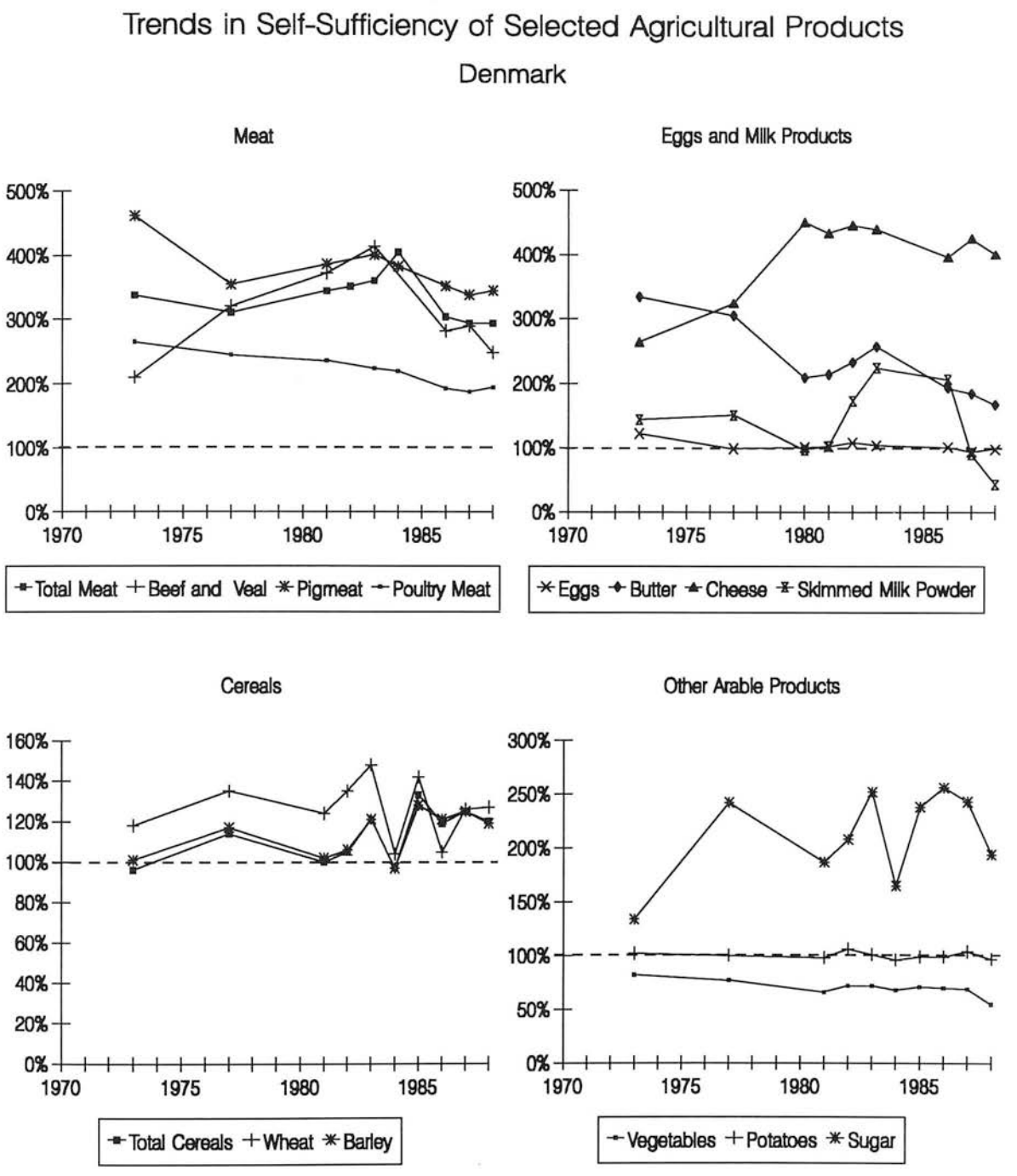
Source: Statistical Yearbook of Denmark; various issues

Figure 6.2.2.



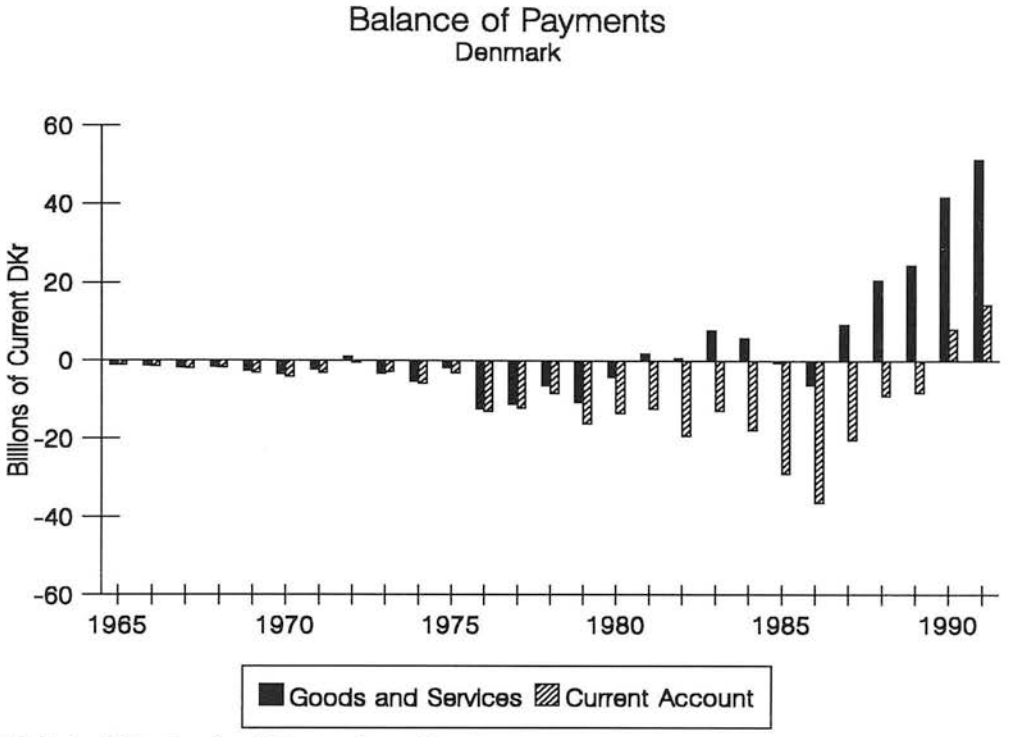
Source: Statistical Yearbook of Denmark; various issues

Figure 6.2.3.



Source: MAFF (1975), MAFF (1980), EUROSTAT: Agriculture. Statistical Yearbook; various issues

Figure 6.2.4.



Source: Statistical Yearbook of Denmark; various issues

6.2.2. Development of Agricultural Policy Objectives

Until the crisis of the 1930's the Danish Government followed a policy of free trade and did not intervene in agricultural production by means of subsidies or market regulation. Danish agriculture had survived the depression of the 1880's by transforming the production pattern and without erecting protective barriers to prevent cheap imports of grain. Before the reduction of grain prices, Denmark had been an exporter of cereals. The country emerged from the crisis as a net exporter of livestock products, the production of which made use of the cheap imported grain and domestic arable production (Tracy, 1989). This transformation was assisted by a relatively high level of education of the farmers as compared to other countries and their willingness to change and cooperate. The latter resulted in the establishment of a large number of cooperative processing and marketing enterprises for livestock products. Assuring education to the whole population had been an objective of Danish governments since 1814 when legislation making basic schooling compulsory was enacted. Since 1868 grants were made available to poor people for attending the Folk High Schools.

During the First World War, Denmark maintained neutrality. This allowed agricultural exports to continue throughout the war and secured the farmers high incomes during the hostilities (Johansen, 1987). The exports continued to grow after the end of the war with the main export article being livestock products. In 1931 the exports declined seriously following the reduction of purchasing power in importing countries, resulting from the recession, which affected the consumption of livestock products. As a reaction, the Danish government first attempted to enhance the conditions of export to major importing countries by negotiating better terms of trade, but was gradually forced to introduce several measures of intervention in the domestic market. The measures included subsidised prices for the arable producers (sugar-beet, industrial potatoes and cereals), taxation of cattle, butter and milk sold to the domestic market, introduction of minimum prices for some products and establishment of quotas for marketing pigs, restriction of grain imports and eventually suspension of imports of rye and wheat in 1938 (Tracy, 1989).

During the WW II, agricultural production was reduced by the lack of imported inputs. A system of intervention was introduced in order to ration and distribute food supplies as well as other goods. Rationing was abolished during the period from 1948 (bread) until 1952 (sugar and coffee) and the government withdrew from being involved in controlling the marketing of agricultural produce.

Developments in the agricultural policy of Denmark after WW II have to be discussed bearing in mind the chronic difficulties in balancing the current account and the important role that agriculture has had in earning export income. There was no danger of malnutrition that would make the food rationing inevitable. The purpose for continuing with rationing after the war was, first of all, to minimise imports and/or to make Danish goods available for export (Johansen, 1987) thus reflecting the problem of earning sufficient foreign exchange and reducing the balance of payments deficit in order to provide funds for post-war recovery.

After WW II the general aim of Danish agricultural policy was that of (OEEC, 1956; OECD, 1967; OEEC, 1961, p. 126):

> *"exploiting the production capacity of the agricultural sector to the fullest possible extent, having regard to market conditions abroad and at home"*

After the abolition of rationing, prices of agricultural products were allowed to be determined by the market forces. Agricultural exports grew until 1953 when difficulties started to emerge as Britain and Germany, the main export markets for Denmark, began to recover their agricultural production and became more protective against imports. The export prices started to decline, following which the farmers' incomes also declined. As a result of these developments the agricultural policy was adjusted to provide farmers more security. The reaction was *"to secure the farmers, at least on the home market, a reasonable price for their products and a reasonable income"* (OECD, 1967). This was done in the period from 1958 until 1965 by introducing a levy on all dairy products sold in the home market, guaranteeing producer prices for grain producers, subsidising fertilizer, establishing measures to assist in marketing and in rationalising production as well as by providing cheap loans to young farmers (Tracy, 1989).

In the late 1950's and early 1960's, the policy of preventing the amalgamation of family run farms, that had been followed since 1899, began to conflict with the need to increase the farm size in order to meet the requirements of modern farming techniques. Since the end of the nineteenth century, the Government had supported the partitioning of large estates in order to provide land for enlargement of small farms and the establishment of independent family farms. In 1962 and 1963, legislation was passed that enabled adjustment of farm structure towards somewhat larger farms with maximum size of 21 hectares (OECD, 1967). This trend towards relaxing the restrictions on farm size increases and on farm business type has slowly continued throughout the period after WW II. The relaxation has been necessary as developments in economic conditions of agricultural production have demanded increases in productivity and efficiency of farming.

Denmark joined the EEC in 1973 after a period of negotiations and anticipation for farmers. It was very much a desirable move for Denmark to become a member of the EEC and benefit from CAP arrangements. Danish agricultural products were allowed free access to the EEC markets that had been protected with tariffs and where prices were higher. CAP arrangements also provided financial support for exports to third countries. Since the intention to join the EEC was announced in 1961, the government had declared that it was essential for the country to possess an efficient agriculture capable of increasing its production when the EEC markets open to Danish exports (Johansen, 1987). Therefore, it was considered appropriate for the rest of the society to subsidise agriculture, in order to encourage increase

efficiency and maintain the production capacity that would have otherwise deteriorated due to contracting marketing opportunities.

The opportunities provided to Denmark by the accession to the EEC in 1973 were offset by the sudden increase in oil prices starting in 1973. A serious farm liquidity crisis appeared in the late 1970's resulting from extensive borrowing that followed the general optimism generated by better prospects for farming within EEC and from change in market situation. The government established a series of measures such as tax relief and regulations for restructuring of loans to prevent forced sales of farms.

In the second half of 1970's and in the 1980's, the EEC area became self-sufficient, first in milk, beef and veal and later in most agricultural products. Therefore, Danish agriculture needed other markets in third countries. Since then Danish agricultural exports have diversified into countries such as USA, Japan and Iran. For a country, such as Denmark, that exports over three quarters of its agricultural production, the marketing and quality of its agricultural produce has become increasingly important. Approximately half of Danish agricultural exports is sold to non-EEC countries and the exports often consist of products, developed specifically for these markets, e.g. feta cheese for Iran, specific cuts of pork for the Japanese market. Most of the marketing and product development is organised by farmers organisations and cooperatives (Hermansen, 1991).

The report by OECD in 1974 on Agricultural Policy in Denmark emphasises that problems of land use had by then emerged in connection with rapid urban development, increasing need for recreation areas and concern for protection of nature. Special laws and regulations started to be enacted in the late 1960's and early 1970's to regulate land use planning and protect environment. In 1987 regulations were passed (Buch-Jepsen, 1992), that placed stringent demands on farmers regarding the reduction of fertiliser and pesticide use, storing and handling of manure, limiting stocking rates, forbidding the burning of straw on the fields etc. Encouragement has been given to alternative farming methods.

In conclusion, during the last century, the overall orientation of Danish agricultural policy has been to maximise the economic returns from agriculture to the nation's economy with the minimum of government support possible. Such policy has been considered the best way for maintaining the competitiveness of Danish agricultural

products in the world market. Support has been given to farmers when it was considered necessary to help agriculture over difficult times that occurred either because of the deterioration of the terms of trade or protective restrictions enforced by the importing countries. Such national support measures have generally been viewed as a temporary relief in difficult periods for an industry that has great importance for the nation's economy. Recently, the Government has also intervened to prevent excessive damage to the environment and nature from intensive application of potentially harmful substances in agricultural production by enacting appropriate legislation and regulations.

In the period of post WW II years the orientation of Danish Agricultural production and policies has faced several changes:

- immediately after the War the attention was on increasing output and limiting consumption of food in order to earn foreign exchange needed for recovering the economy;
- in the early 1950's agriculture expanded to supply foreign markets where food was in short supply;
- towards the late 1950's the situation changed as surplus of production emerged because the countries Denmark had been exporting to (in the EEC and outside), had increased their own production and established protective barriers against imports;
- throughout the 1960's the production of most farm products did not increase as it was difficult to find market outlets. At the same time efforts were made to become a member of the EEC and thus to open large markets for Danish produce. Assistance was given to farmers to improve the efficiency of farming and maintain the potential for increasing the production when new markets open;
- from 1973 until the emergence of over-production within the EEC in the early 1980's Danish agriculture was oriented to benefiting from CAP arrangements by producing and competing in the EEC markets;
- since the early 1980's, when the orientation of CAP started to change towards reducing over-production and reducing expenditure on agricultural support, the scope for improving returns from in Danish agriculture shifted to reducing production costs and marketing the produce outside the EEC.

In the Danish case the following periods can be attributed to the three phases in the orientation of agricultural policies and production, described in Section 5.1:

The URGENT GROWTH phase - It has not been possible to identify a period in this century when urgent growth has been required to ensure secure food supplies for the nation.

The GROWTH and EFFICIENCY phase - There have been two periods when growth and efficiency has been clearly desired in agriculture:

- WW II - the mid-1950's
- the early 1970's - the early 1980's.

The SUSTAINABILITY phase - Since the emergence of over-production in EEC in early 1980's - to date.

The period between the mid-1950's and the early 1970's had also traits of the SUSTAINABILITY phase in that production could only increase if new outlets were opened. On the other hand it was viewed as a temporary period of difficulties before obtaining access to large markets in the EEC.

6.2.3. Evolution of the Extension Complex

Publicly Supported Advisory Services

In Denmark the agricultural advisory services that receive public financial support are administered by farmers' organisations. The government involvement in agricultural advisory work is limited to making subsidies available. The employment of advisers is the responsibility of farmers' organisations as is the day-to-day and long-term running of the advisory services.

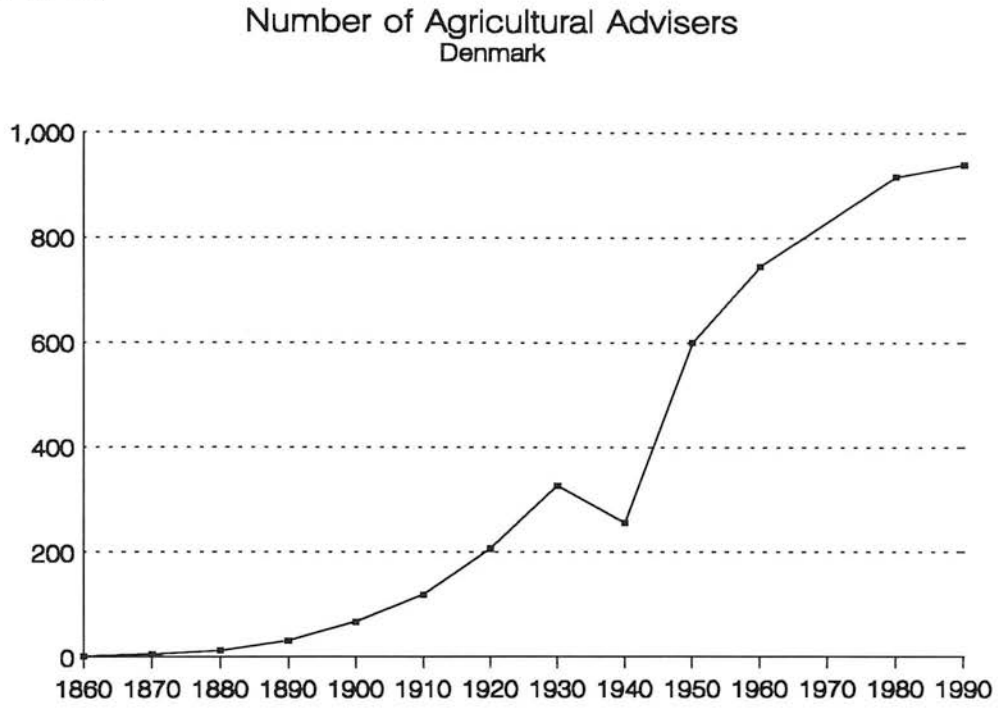
The Danish agricultural advisory services can be considered to have started in 1860 with the establishment of the first dairy adviser at the Royal Danish Agricultural Society (OEEC, 1950). The public involvement started in the 1880's with the appointment of specialised government advisers in a number of subject areas such as dairying, crop production, cattle breeding, horse breeding and horticulture (OECD, 1969). Soon the state adopted a policy of giving financial support for advisory work, but leaving the actual employment of advisers to the farmers' organisations (OECD, 1981). The number of agricultural advisers employed directly by the government reduced from 18 (OEEC, 1950) at the turn of the century to zero by 1962 (OECD, 1969).

In Denmark, there are two groups of farmers' associations that are involved in providing advisory services to their members. The two groups are Farmers' Unions (currently 100 local unions) and Family Farmers (originally called Smallholders') Associations (currently 190) for farmers with larger and smaller farms respectively. Both groups of the associations formed their national federations - "The Danish Farmers Unions" in 1893 and "The Danish Smallholders' Association" (later renamed "The Danish Family Farmers' Association") in 1910 (DAAC, 1992). The local unions run currently approximately 90 advisory centres. The farmers with very large farms have their own arrangements for obtaining advice by commercial means directly from research institutions, private consultants, lawyers and other sources.

The local farmers' organisations started employing advisers with support from the government that covered part of the costs involved and assigned them to certain subject areas according to the development of specialisation in Danish agriculture and growing importance of different subject areas. The first act on subsidies to

advisers was passed in 1887 (DAAC, 1992) and the support has continued until the present time.

Figure 6.2.5.



Sources: OECD (1969), OECD (1981), DAAC (1991)

The development of the total number of advisers at various farmers organisations is illustrated in Figure 6.2.5. In addition to the two farmers' federations there are several specialised organisations that are involved in enhancing progress in various branches of agriculture. These organisations also employ advisers and receive government support. For example, in 1969 these specialised organisations included bodies such as (OECD, 1969):

Danish Home Economics Associations;
Horse Breeding Societies;
Sheep Breeding Societies;
Danish Rabbit Society;
Danish Fur-Bearing Animals Society;
Danish Market Gardeners' Society;
Horticultural Associations;
Danish Fruit Growers;
Danish Jersey Society.

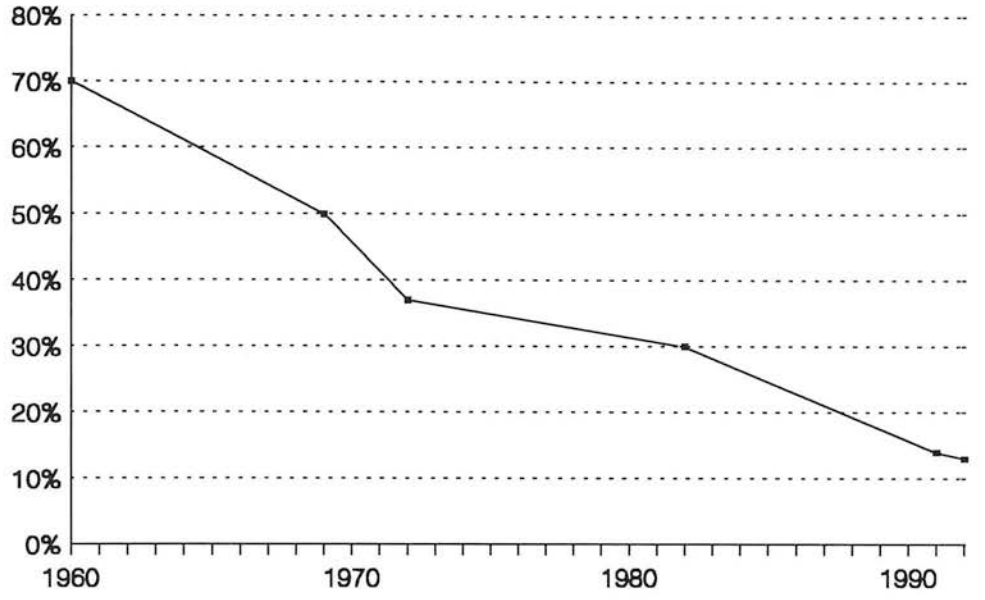
Until 1971, there was no central nation-wide organization in Denmark that would be engaged in advisory work for farmers. All the advisory services were provided by the local farmers' organisations (Nygaard and Nielsen, 1991). In 1971 the Danish National Agricultural Advisory Centre was established (OECD, 1981). In its work the Centre covers the whole of Denmark supporting advisers in local centres with information and knowledge as well as performing other functions that are best carried out centrally. Approximately 10 per cent of the total of 940 advisers in 1991 worked in the Danish Agricultural Advisory Centre (Nygaard and Nielsen, 1991). Since the late 1960's the local unions have started appointing advisers jointly in order to avoid duplication of advisory work by the two unions that has been and still is common (OECD, 1969). Recently a development has emerged whereby smaller local advisory offices have been closed and replaced with bigger regional centres that have larger teams of advisers which enables them to make better use of resources, to offer more comprehensive services in response to increasingly complex problems and allows the farmer to have a choice of an adviser.

Generally, farmers pay a subscription to their unions that is based on the value of their land. In return they receive a number of services of which the major service is advice. In 1977, advice was provided without any further charge except in the case when the farmer wanted advice or assistance in connection with accounts, taxation problems, planning of buildings, buying or selling of farm, obtaining credit and legal advice/representation (Murray, 1977).

The share of financial support from the Government in financing the advisory services at the farmer's organisations has been changing over the years. Figure 6.2.6 illustrates the change and is based on percentages gathered from various sources indicated on the Figure. The percentages are often referred to as estimates and therefore the figures can not be considered as precise, but nevertheless, they show the overall trend towards reduction in government involvement. The proportion of government support in funding the advisory services of the farmers' organisations has declined from approximately 70 per cent in 1960 to 13 per cent in 1992. In 1991, no subsidies were granted for advisory work in farm management and home economics, which are now carried out on a purely commercial basis (DAAC, 1992). The remaining branches of advisory work receive support to a different extent (OECD, 1992). If the cost of farm management advisory work is left out of the calculations, the state support still accounts for approximately 30 per cent of the total cost (DAAC, 1991).

Figure 6.2.6.

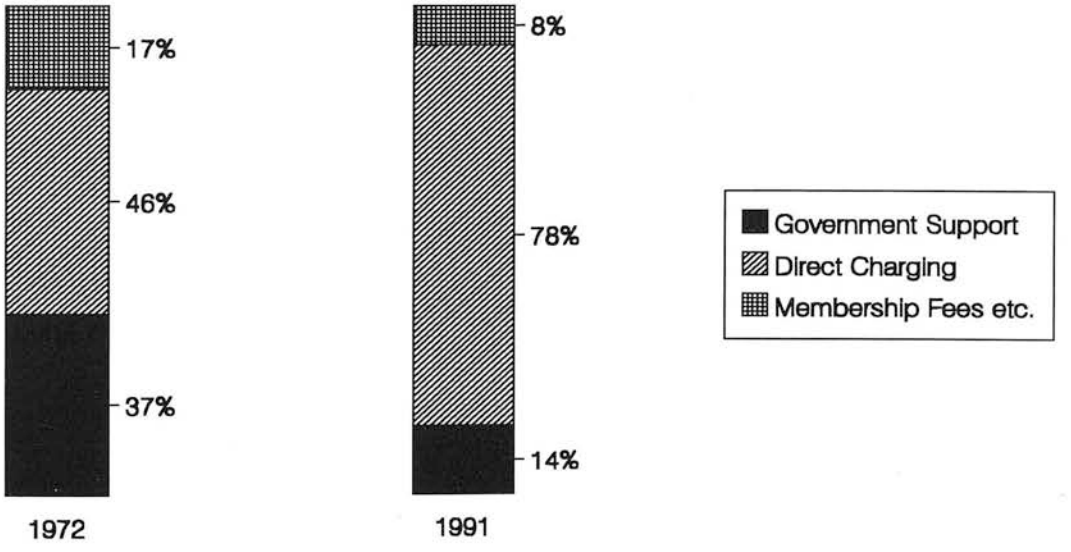
Share of Government in Funding of the Advisory Services
Denmark



Compiled from ANDA (1991), DAAC (1992), OECD (1969), OECD (1987) and validation questionnaires

Figure 6.2.7.

Change in the Structure of Funding of Advisory Services
Denmark



Source: ANDA (1991)

The change in the balance of sources of funds for the advisory services of farmers' organisations is illustrated in Figure 6.2.7. As can be seen the role of direct charges for services has increased significantly from 46 per cent in 1972 to 78 per cent in 1992 (ANDA, 1991). The charges are made for specific services such as farm accountancy services, investment planning, crop and fertilizer plans etc.

Subjects of Advice

The pattern of establishment of advisers in different subject areas is illustrated in Table 6.2.1 and the distribution of advisers between different subject areas in Table 6.2.2 for 1981 and 1991. There has been a marked increase in the number of farm management and accountancy advisers since 1981.

According to OECD (1989b) plans were made to move 15 advisers to work in subject areas such as environment protection, conservation and alternative crops in 1987. The advisory work by these advisers was to be funded by the Government. It is confirmed by Bennetzen (1990) that advisory work on environmental issues has obtained a greater role since the enactment of laws regarding agriculture and nature protection in 1987. Advice on environmental issues has been incorporated into production advice and special advisory posts have been established in the Danish Agricultural Advisory Centre for supporting local advisers.

Table 6.2.1. Establishment of Advisers in Various Subject Areas. Denmark.

Period	Subject	Comments
1870's	Dairying	
1880's	Animal husbandry	14 in 1890
1900's	Crop husbandry	four in 1900; 38 in 1910
1910's	Farm accounting	nil in 1910; 28 in 1920
1920's	Home economics	
1930's	Horticulture	
1940's	Youth work	
1940's\60's	Buildings and machinery	

Sources: FAO (1951), OECD (1969), OECD (1981)

Table 6.2.2. Number of Advisers in Different Subject Areas. Danish Agricultural Advisory Services

Subject Area	1981	1991
Plant Production	225	225
Cattle and Pigs	191	196
Farm Buildings and Machinery	50	45
Farm Accounting and Management	340	380
Youth Work	20	19
Home Economics	75	50
Other	16	25
TOTAL	917	940

Sources: OECD (1981), DAAC (1992)

It has not been possible to establish whether specialised advisers in socio-economic issues have been appointed in the local level to facilitate structural changes in agriculture. No mention of such advisers has been made in FAO (1950), OECD (1969), OECD (1981). However, the Danish Agricultural Advisory Centre has a Socio-Economic Section which has a task to help the local farmers' associations in ensuring coherence between the farm management and socio-economic services they offer. The Centre contains also the National Department of Agricultural Law that is responsible for coordinating socio-economic advisory services to farm families that are considering their occupational future (DAAC, 1991). Similarly, no mention of specialist advisers in farm diversification has been found, but issues of reorientation of production on farms to more profitable lines of food production and also into non-food products are being dealt with by advisers and during continuing education courses offered by the farmers' organisations in cooperation with local agricultural colleges (DAAC, 1992). Therefore, it can be presumed that advice on socio-economic and diversification issues has also been incorporated into other services offered to farmers by their associations.

Advisory Services from Commercial Organisations

In general, information about commercial advisory work in Denmark is very scarce. The discussion below is based on the evidence collected from nine different respondents during this study unless specifically stated otherwise. Seven responses were obtained to the validation questionnaire (see Section 3.4 and in Appendix C) and two interviews (see Section 3.3.2 and Appendix A) that were carried out with two persons of whom one had had broad experience in the publicly supported advisory service of farmers' organisations and the other had been working for a chemical/fertiliser supply company. The interviews were held at the Scottish Agricultural College in Edinburgh which was possible as the two individuals were working at the College for several weeks. The types of advisory organisations covered the nine different responses are indicated in Table 3.4 (in Section 3.4).

Some of the respondents to the questionnaire and the interviewees suggested that commercial advisory work of supply and processing companies as well as independent consultants has had a smaller role in Denmark than in other European countries. There is contradicting evidence about this issue e.g. OECD (1969) estimates that in the late 1960's approximately 150 advisers were employed by cooperative and private firms in the late 1960's and DAAC (1992) estimates that approximately 20 per cent of the total need of farmers for advice is covered by companies supplying information about their products in addition to private advisers who specialise in farm accounting. Nevertheless, the responses allow to identify some trends in the involvement of commercial organisations in advisory work.

In Denmark, a dominant proportion of farm inputs and produce is dealt with by farmers' cooperatives. The *input suppliers* started providing advice in the middle of the 1960's with the first companies being fertilizer and chemical suppliers followed by suppliers of livestock feed in the 1970's. The responses show that on the whole the provision of advice became notable in 1970's and culminated in late 1970's and early 1980's. Since then the attention has decreased, mainly because of decreasing farm incomes that have affected the purchasing of inputs. Advice has mainly been given by a small number of large input supply companies as a part of their competitive strategy. Currently the experts employed by the producers mainly teach and inform the retail sellers of their products. They also have always been informing and educating the advisers who work for the farmers' organisations about

their products. The advisory work of the experts of the input supply companies has been mainly related to technical issues of using the inputs. In one case a feed supplier established a farm recording scheme in order to obtain information about the productivity parameters of the feed and also about the customers in general. According to one of the respondents, in the 1970's, a large input supplier attempted to create a complete advisory service with central and local offices. The organisation provided advice and worksheets on all farm enterprises where the inputs supplied by them could be used. They also provided advice on grain drying in an attempt to market themselves as a single centre where farmers could get all the services they required. This service collapsed in the 1980's as the provision of such extensive advice was not justified financially.

The *organisations concerned with farm produce* are also involved in advisory work. Examples include seed handlers (grass-seed), vegetable processors (green peas, carrots, potatoes) and sugar factories. These organisations are concerned mainly with technical aspects of production. Advice is given to farmers who have entered into a supply contract with the organisation. The advice and contract cover all aspects of growing the crops (machinery, treatment with chemicals, agronomy, planting, harvesting, storing, delivery etc) and the advice is often given in a prescriptive way. The interest of the organisations lies in ensuring timely deliveries of high quality produce. In most cases, the involvement started in the 1950's and has grown significantly. For example, in the case of green peas, almost the entire crop is covered by advice from processors. One of the interviewees was asked if dairy plants advise their suppliers, but he indicated that advice on milk production is mainly given by the advisers of farmers' unions.

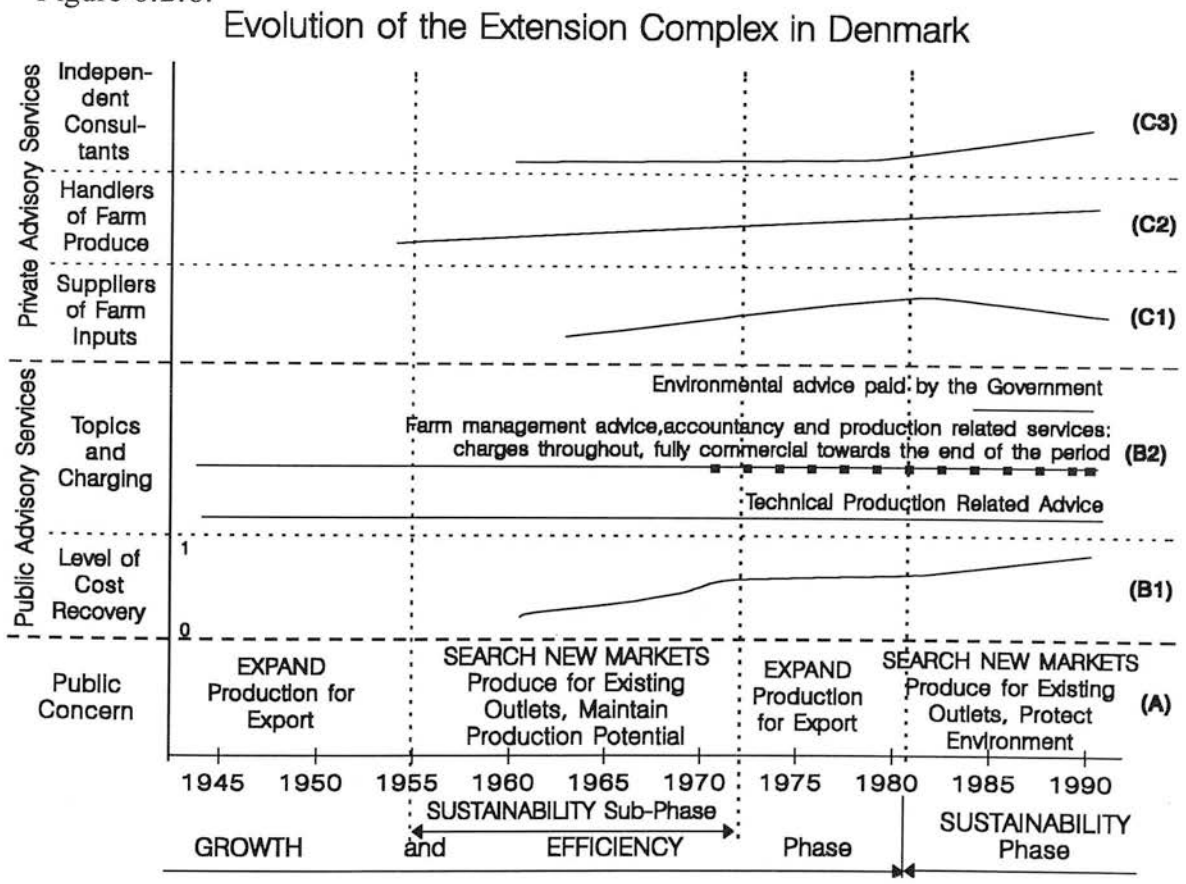
Respondents from all types of advisory organisations were asked to identify when the first *independent consultants* emerged and if there has been growth in their number. The responses show that the first independent consultants were established in the 1960's, the number increased at a very low rate in the 1970's and that relatively more were set up in the course of the 1980's. All the respondents agreed that there had been an increase. Two respondents had been more closely involved with independent consultants and they estimated the first to have emerged in the early 1960's. Others indicated the first to have established in the 1970's and all responses indicated that there was a slightly bigger increase in the course of the 1980's. According to the estimate of one of the respondents (an independent consultant himself) the number of independent advisers is currently about 50 to 60.

They are mostly consulting on issues related to arable farming and management/accounting. Groups of farmers have employed commercial independent advisers for marketing their produce and advising them on farm management issues. It was expressed that independent consultants can fulfil the requirements of a customer better and deeper than the established system and also that they can offer services in special niche areas which have recently developed.

Summary

A graphic summary of the developments in the Extension Complex of Denmark is presented in Figure 6.2.8 using the format developed for Figure 4.23. Also, the phases in the orientation of agricultural production and policies, defined in Section 5.1. and identified in Section 6.2.2, have been shown in the Figure 6.2.8.

Figure 6.2.8.



6.2.4. Validation

General

Danish agriculture and agricultural policy have developed in a somewhat different pattern to the sequence presented in the Conceptual Framework in Section 5.1. It has not been possible to distinguish the URGENT GROWTH phase (see Section 6.2.2) in the data period of 1945-1992 and therefore, validation in relation to this phase can not be performed. There has been a lengthy GROWTH and EFFICIENCY phase which was interrupted by a long period of surplus of production that lead to decline in production and to a change in orientation towards economic sustainability (SUSTAINABILITY sub-phase discussed in Section 6.2.2. and shown in Figure 6.2.8) This latter period could be viewed as a SUSTAINABILITY phase in its own right had it not been considered at the time as a period of temporary difficulties and preparation for the opening of markets that would again allow extensive exports and growth. The GROWTH and EFFICIENCY phase has been followed by the SUSTAINABILITY phase where the emphasis has been on both economic and environmental sustainability.

Throughout all the phases, agriculture in Denmark has been relatively more market driven (oriented to economic sustainability) than in other European countries where government intervention has been exercised for a much longer period. This is mirrored also in the Extension Complex in that no government advisory service exists in Denmark and that there has always been a considerable recovery of costs from agricultural producers. The advisory services are owned and run by the farmer's organisations and the state subsidies they receive have had few strings attached. This has allowed a flexible system to develop, able to adjust to local conditions and to changes over time. The responses of those questioned to obtain information about the development of extension activities in Denmark suggest that such a farmer-oriented and flexible system which offers appropriate services to the farmers has reduced the scope for other elements in the Extension Complex. Also, in providing advice, various large commercial organisations have placed much emphasis on educating and informing the advisers of farmers' organisations rather than advising farmers directly.

The qualitative changes in the Danish Extension Complex have been illustrated in Figure 6.2.9 where they are presented in the format of the Conceptual Framework

and put alongside with the Framework (Figure 5.1 repeated) for ease of comparison.

The GROWTH and EFFICIENCY Phase (with the SUSTAINABILITY Sub-Phase)

Layer (B) - Detailed information about the *publicly supported advisory services* of the farmer's organisations during the early part of the GROWTH and EFFICIENCY phase has proved extremely difficult to obtain. It is possible to state with confidence that in this early part of the period under discussion, the services were subsidised from public funds, but it has not been possible to establish to what extent. During the SUSTAINABILITY sub-phase, the level of cost recovery from farmers increased considerably but remained constant during the subsequent part of the GROWTH and EFFICIENCY phase. This development is illustrated with the shape of the symbol in B1.

Throughout the phase, advice was offered on technical issues of farming and on farm accounting (B2). The provision of such advice was established long before the beginning of the period under consideration (technical issues at the turn of the century and accounting after the First World War, which was a period when agricultural exports were expanding and increased output and efficiency were desired). Greater emphasis started to be paid to farm business management in the course of the GROWTH and EFFICIENCY phase. The available data indicate that advice on both issues was provided for a charge (shown with filled markers on the lines) at the end of the SUSTAINABILITY Sub-Phase, but it has not been possible to identify exactly when charging was started (the uncertainty is indicated with box markers on the lines).

Figure 6.2.9.

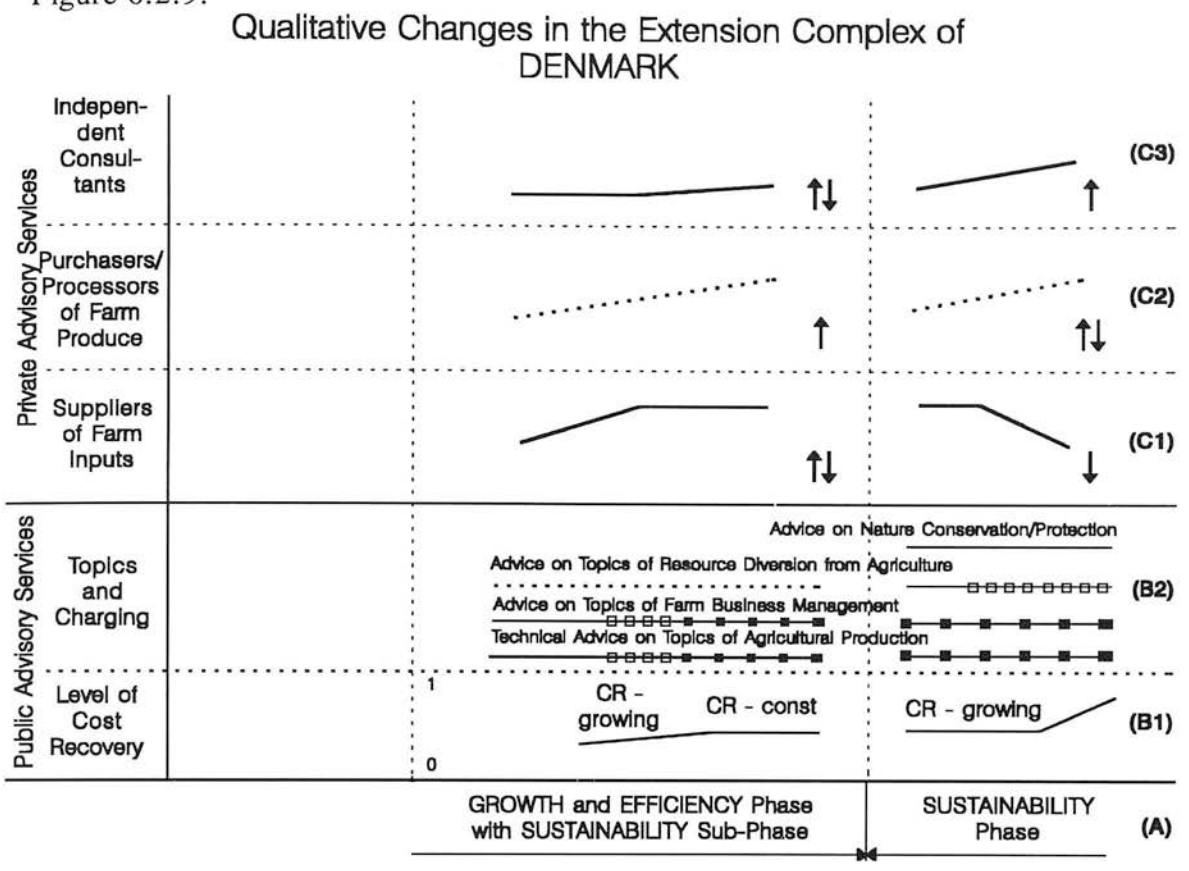
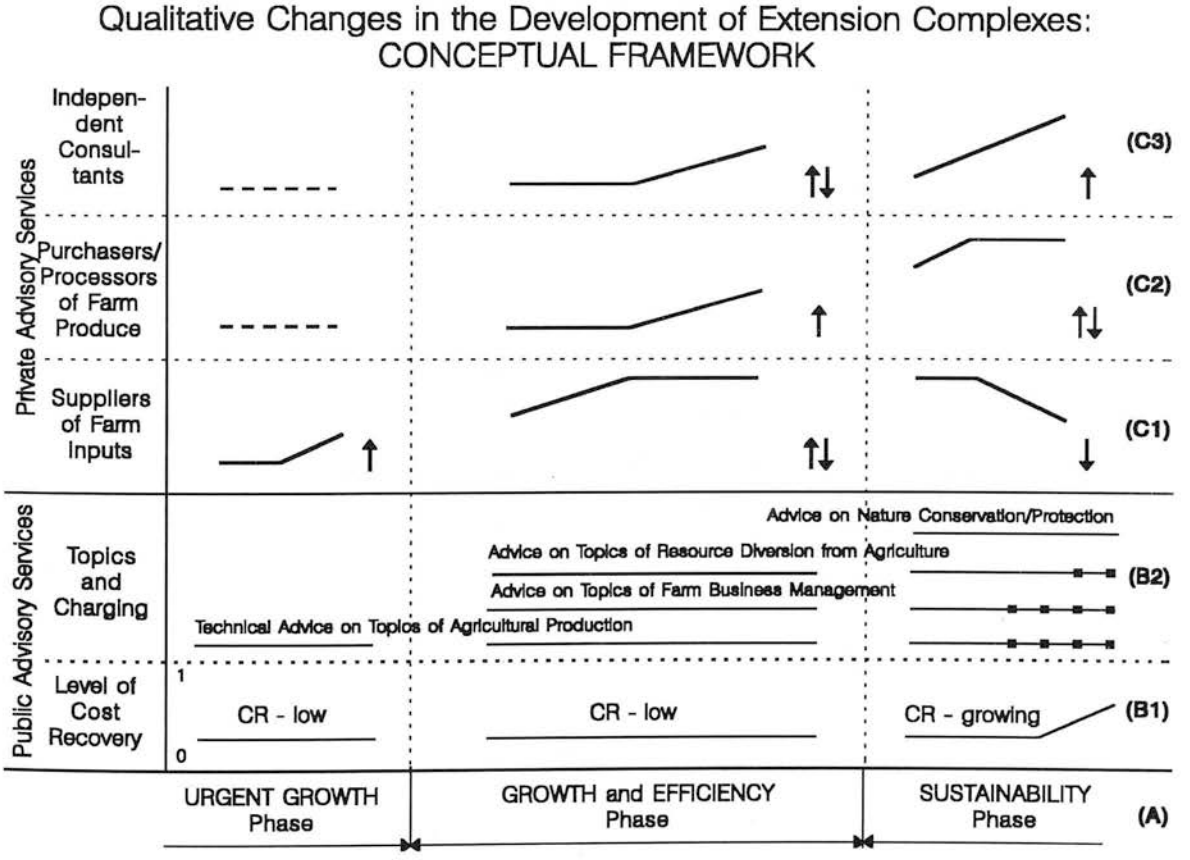


Figure 5.1. (repeated for ease of comparison)



Layer (C1) - Provision of advice by the *input supply* organisations was started in the course of the GROWTH and EFFICIENCY phase. The effect of the developments in production conditions during the SUSTAINABILITY sub-phase clearly reduced the scope for the input suppliers' involvement in advisory work. The number of farmers was declining at a fast pace and farms became increasingly specialised. These influences together with the impact from the advisory services of the farmers' organisations (discussed at the beginning of this Section) had a role in the late beginning of advisory work by input suppliers. These scope-reducing influences are symbolised with a downwards arrow in layer C1. At the beginning of the latter part of the GROWTH and EFFICIENCY phase, extensive investment, modernisation and growth occurred. This, together with the introduction of a number of chemicals that were complicated to use, increased the scope for provision of advice by input suppliers. Towards the end of the phase, as financial difficulties started to emerge in agriculture leading to greater attention being paid to efficiency and cost reduction, the scope for input suppliers to maintain their advisory services started to reduce again.

Layer (C2) - Information about the advisory activities of *organisations concerned with processing and marketing of farm produce* has been limited. On the basis of the data, collected in this study, it is possible to state that advice started to be given by such organisations during the phase and has increased in importance (more organisations have become involved as high quality of produce has become more critical for competing successfully on markets). The conditions during the SUSTAINABILITY sub-phase made the importance of achieving high quality at low cost more explicit and thus may have increased the attention paid to product development and the scope for provision of advice by processing organisations.

Layer (C3) - The *independent consultants* started to emerge during this phase, but their numbers increased very moderately. The scope for independent consultants' activities was low as the farmers' organisations provided an efficient and highly specialised advisory service in technical issues and in detailed accounting of farm business for tax purposes as well as of different farm enterprises for profit analysis.

The SUSTAINABILITY Phase

The SUSTAINABILITY phase commenced in the economic sense with emergence of over-production in the EEC and was accentuated by a serious farm liquidity crisis. Environmental sustainability has been an issue of concern for the Danish general public for almost two decades and has resulted in increasingly stringent legislation in the course of the SUSTAINABILITY phase.

Layer (B) - Since the beginning of the phase, *the public support* to advisory work has been reduced to a very low level of 13 per cent of the total cost of the advisory service, with a consequent increase in the level of cost recovery from the users (B1). Farm accounting and advisory work in management receive no support from public funds, but advice on environment protection issues is highly subsidised (B2). Advice is provided on socio-economic issues but the data, collected in this study, do not allow specification of when it was started or whether it is provided at a charge. Recently attention has also been turned to reorientation of agricultural production to ecological farming and to the production of non-food commodities.

Layer (C1) - The validation data suggest that the involvement of *input supply organisations* started to decline during the SUSTAINABILITY phase. The scope for providing advice was reduced by declining farm incomes, reduced quantities of production and restrictions on fertilizer and chemical use that all lead to reduced use of inputs. The suppliers have increasingly employed highly qualified sales staff who are also able to advise customers. Attention has also been concentrated on advising advisers from the farmers' unions.

Layer (C2) - *Organisations concerned with processing and marketing of farm produce.* The information that was available does not allow conclusions about the developments in the advisory services of processing/purchasing organisations specifically during the SUSTAINABILITY phase to be made. The few responses about such organisations only indicate that their involvement has been increasing since the 1950's.

Layer (C3) - The number of *independent consultants* has increased faster during this phase, but the number is still considered low. The increase has been

encouraged by the growing complexity of farming, where the independent consultants can be of help by offering personal service, to those in need, that cannot be obtained from other sources. The services are offered in relation to arable farming, marketing, accounting, farm management and other areas that can be very specific.

Conclusions

In general, the data that were available for this study about the evolution of the Extension Complex and the development of agricultural production in Denmark suggest that the direction of changes that have taken place in the Danish Extension Complex since WW II have been consistent with those described in the Conceptual Framework.

In the case of Denmark, the validation has exemplified that the overall attitude in the society towards supporting agriculture and the arrangements for the main (publicly supported) advisory service that partly result from this attitude can influence significantly the scope and need that other types of institutions, potentially controlling the elements of the Extension Complex, have for being engaged in advisory activities. The Danish case suggests that if the main advisory service is flexible, farmer controlled and oriented to farmers' needs, then other groups of institutions/organisations, such as input suppliers and processors of farm outputs, see the service as an indirect outlet to their needs and will also use the services for their purposes, especially as the other groups are also largely controlled by farmers.

6.3. The Case of Finland

6.3.1. Agriculture and the Nation

Physical background

Finland is a very northern country, virtually on the verge of possible agricultural production. Only a small proportion of the land in Finland is suitable for agricultural production. In 1990, the territory of Finland was 38,000 thousand hectares of which 7.5 per cent was in arable use. It has been estimated (Mead, 1953), that over 90 per cent of the agricultural land has to be drained (compared to 67 per cent in Sweden, 38 per cent in Estonia and 48 per cent in Denmark). Forests cover 58 per cent of the country in addition to lakes (8 %) and swamps. Finland is a country of long distances and large rural areas with low population density.

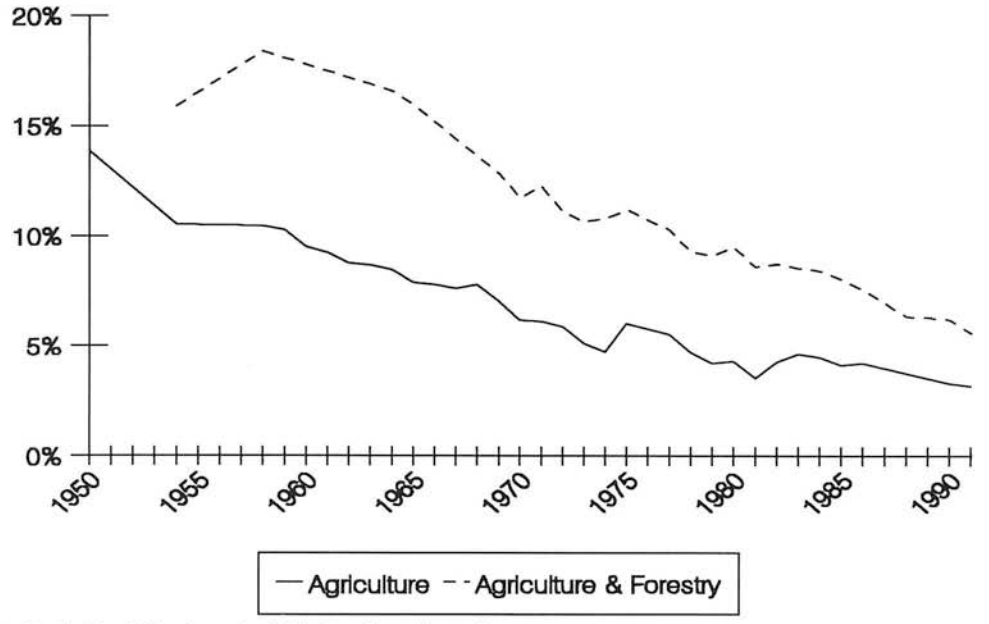
Agriculture, Rural Economy and the Nation

In 1991, the share of agriculture in total employment was 9.4 per cent and the value added in agriculture accounted for 3.4 per cent of Gross Domestic Product (Agricultural Information Centre, 1992). Food products accounted for 2.3 per cent of export earnings and their share in imports was 4.7 per cent. Thus, currently agriculture has a very small role in the economy of Finland, but it has been greater in the past.

The development of agriculture's role in the economy after WW II is illustrated in Figures 6.3.1 to 6.3.5 and reference to earlier periods is given in the text. Agriculture's contribution to Gross Domestic Product was 50 per cent in 1918 and as illustrated in Figure 6.3.1, has decreased from 14 per cent in 1950 to 3.4 per cent in 1991. Agriculture's share in exports (Figure 6.3.2) has remained below three per cent since 1972 having declined to this level from eight per cent in 1930. Figure 6.3.3 illustrates the development in the balance of trade which has been predominantly negative since 1960.

Figure 6.3.1.

Share of Agriculture and Forestry in Gross Domestic Product
Finland



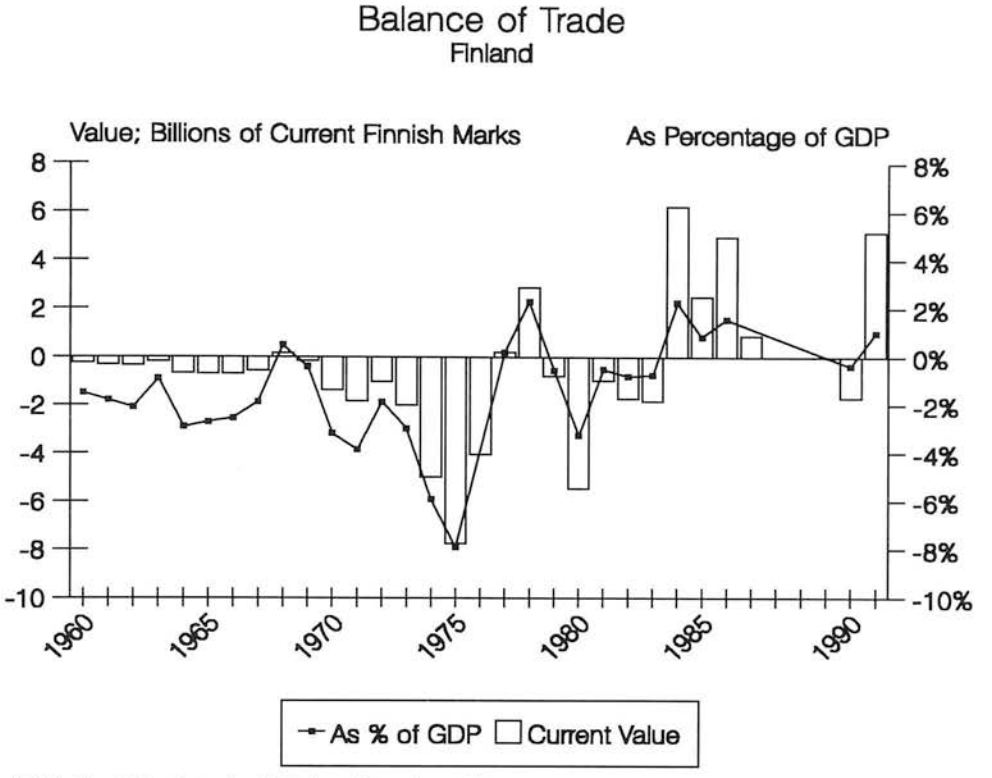
Source: Statistical Yearbook of Finland; various issues

Figure 6.3.2.

Share of Food Products in Foreign Trade
Finland

Source: Statistical Yearbook of Finland; various issues

Figure 6.3.3.



Source: Statistical Yearbook of Finland; various issues

In the period of 1924-37, however, the balance of trade was continuously and increasingly positive with a short exception of 1927-29 (Lindgren, 1938). Agriculture had an important role in achieving this by producing livestock products for export and increasing the domestic production of cereals thus reducing the need for imports. Throughout the period between the two World Wars, exports of livestock products remained in the third important place after timber and pulp. The value of the exports of livestock products, especially cheese and eggs, grew by more than 70 per cent, but the share of these products in the total exports reduced from an average of 10 per cent for 1921/25 to 6.6 per cent in 1937 (Lindgren, 1938).

The share of agriculture in employment, as shown in Figure 6.3.4, has continuously declined from just over 40 per cent in 1950 (approximately 66 % in 1918) to seven per cent in 1990. The share of population living in countryside has declined from 80 per cent in 1930 to 40 per cent in 1986. As a result of these trends the power base of the agricultural lobby has significantly reduced, but remains high in comparison with most other European countries. The fact that rural population is still relatively large and population density is low, at 15 inhabitants per square kilometre in 1991

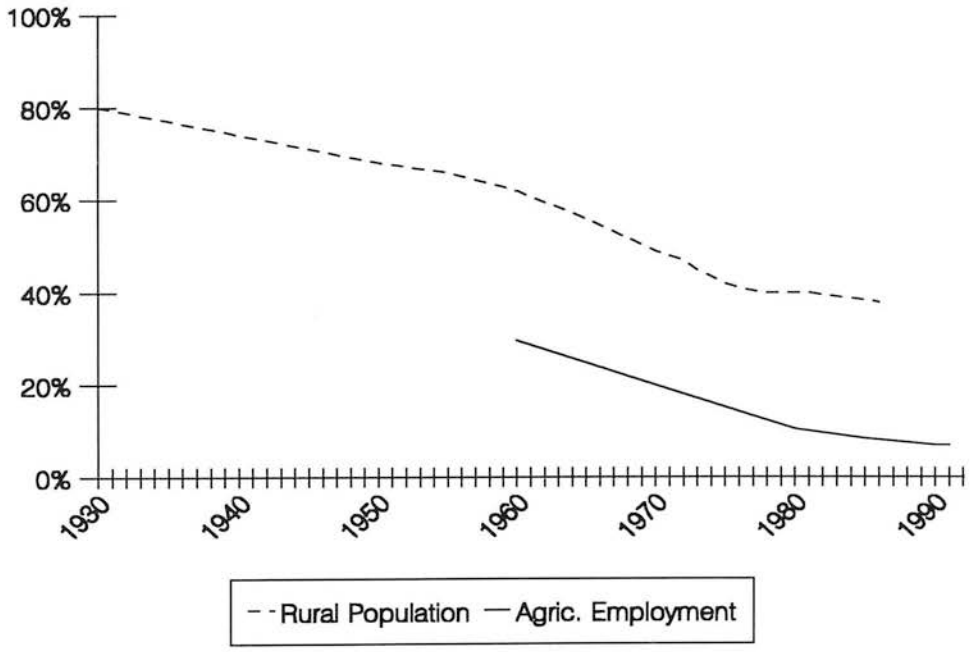
(Agricultural Information Centre, 1992), has a strong influence on policies regarding development in rural areas.

The role of forestry and forest based industry has already been mentioned. Forestry is closely related to agriculture as most farmers operate forest in addition to farming. On average, a farm has 12 hectares of agricultural land and 35 hectares of forest (ADAS, 1985). Forest based products have an important role for the economy. In total, the products of forestry, wood processing and the paper industry accounted for 40 per cent of the value of Finnish exports in 1989 (Figure 6.3.5).

Figure 6.3.4.

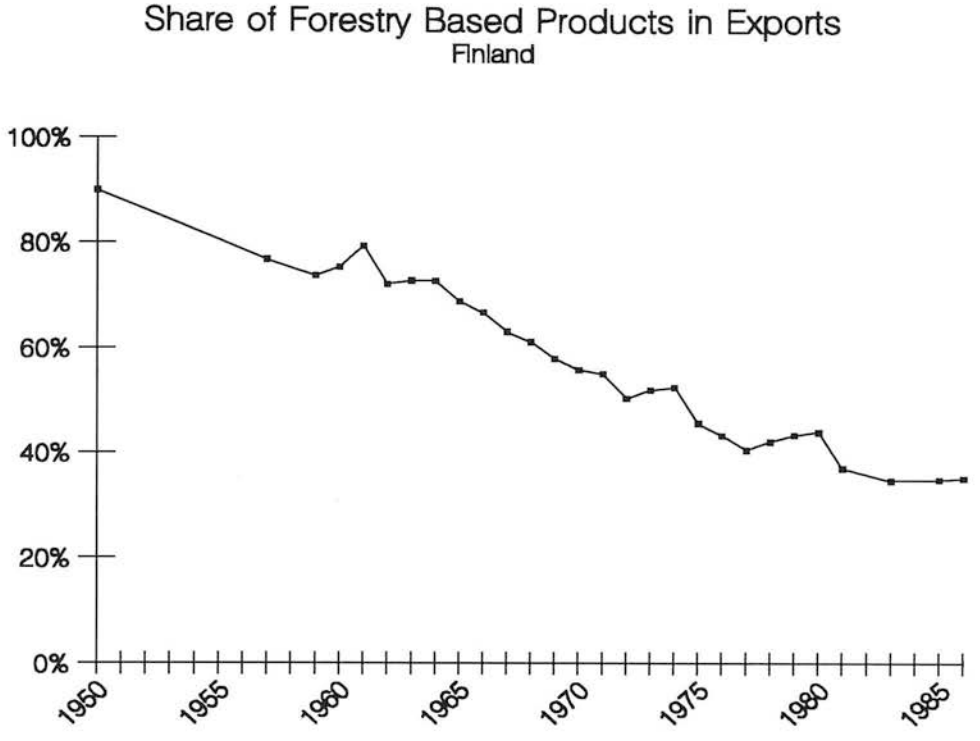
Agricultural Employment and Rural Population; Percentage in Total

Finland



Source: Statistical Yearbook of Finland; various issues

Figure 6.3.5.



Source: Statistical Yearbook of Finland; various issues

6.3.2. Policy Objectives in Relation to Agriculture and Rural Development

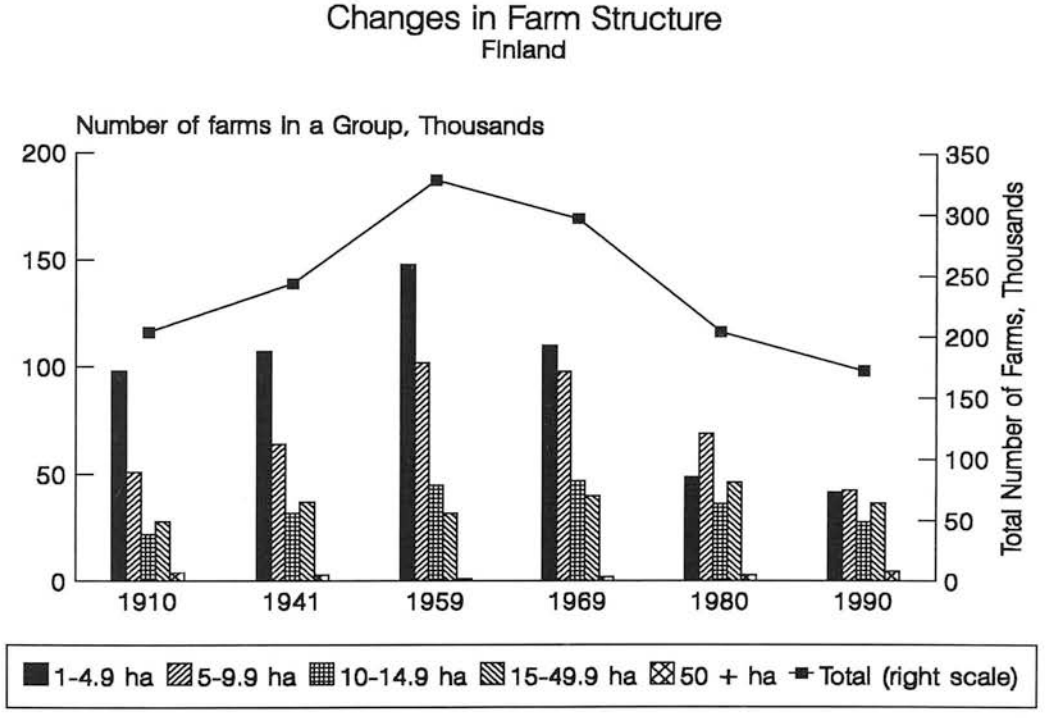
Finland gained independence from Russia in 1917. Immediately after gaining independence the government had the task of ensuring secure and sufficient food supplies (Westermarck, 1954).

Measures were taken to increase the food production capacity of agriculture by extending the area under crops. Government provided grants to facilitate land-clearance. By 1939, the arable area had increased by over 600 thousand hectares (over 30 %) (Westermarck, 1954). Before independence, grain production in Finland was hampered by cheap Russian grain imports. In order to facilitate an increase in the production of bread grains, measures were taken to protect domestic markets from cheap imports. As a result, domestic production of cereals increased considerably. This is reflected by the decrease of 43 per cent in the value of imports of cereal products to Finland in the period between 1921 and 1937. At the same time the value of exported livestock products, mainly butter, cheese and eggs, rose

by 42 per cent. Also, encouragement was given to increasing domestic sugar production.

Land reform was carried out over several years starting from 1909. It created a large number of relatively small independent farms. Former tenants became owners of the land that they had been farming and also new farms were created for the landless. As a result, the share of owner-operators amongst farmers rose from one third, in the middle of the 19th century, to around 90 per cent by the late 1920's (Singleton, 1986). Thus, a strong rural base was established by the Finnish society. The changes in farm structure and numbers are illustrated in Figure 6.3.6.

Figure 6.3.6.



Source: Mäkinen (1990), Agricultural Information Centre (1992)

During the recession of the 1930's, the government took steps to protect agriculture by establishing export premiums (in 1932 for butter and cheese) and introducing import licences (in 1928 for eggs, in 1934 for margarine) and import duties (in 1934 for grains). Government prevented farms from going bankrupt by offering grants in support. As a result agriculture survived the world recession without major problems and in the late 1930's Finnish agriculture became increasingly export oriented.

World War II had a significant impact on agriculture in two ways. First, it pulled away labour and second, the territorial seizures by the USSR reduced the crop growing area of Finland by 11 per cent (Westermarck, 1969). Shortage of food resulted. The territorial seizures raised the issue of food security once again to the top of the policy agenda.

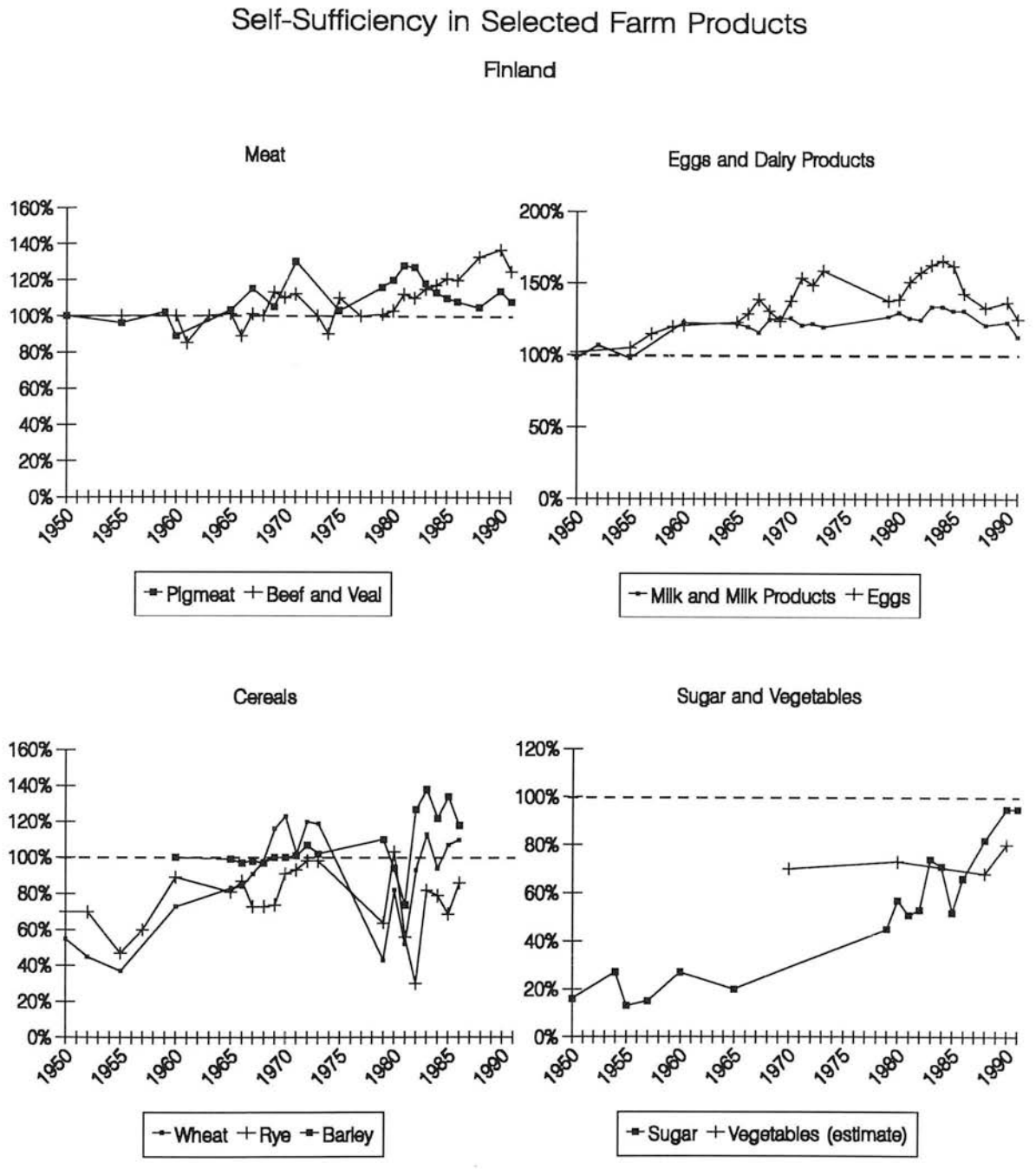
The government introduced guaranteed prices and offered other financial incentives to maintain the level of production. From 1953/54, a comprehensive system of price and support policies was established to replace the various *ad hoc* measures that had existed before (Westermarck, 1969). The objectives of government agricultural policy in the 1950's were (Singleton, 1986):

- to achieve self-sufficiency in products that are possible to produce in Finland; and
- at the same time to assure that living standards of farmers who have a satisfactory degree of rationalisation do not lag too far behind those of other occupations.

Thus, the aim immediately after WW II was to achieve growth in agricultural production until the volume produced would satisfy the domestic demand. As time went on, more emphasis was laid on the rationalisation of production.

The first fears of over-production appeared already in the 1930's (Westermarck, 1954), but they did not materialise as markets were found for produce, both at home and abroad and later the effects of WW II reduced the level of production. Nevertheless, by the 1950's Finland was self-sufficient in milk, eggs and pigmeat (Figure 6.3.7). In 1955, Finland became more than self-sufficient in milk and a year later in eggs. In this period it became increasingly difficult to find markets abroad for the produce that was in excess to domestic needs. Over-production became a reality. Self-sufficiency in pigmeat rose over 100 per cent by 1967, in beef by 1968 and in wheat by 1967. The trends in the degree of self-sufficiency of various farm products are shown in Figure 6.3.7.

Figure 6.3.7.



Sources: OECD (1975), OECD (1989), Statistical Yearbook of Finland (1983), Agricultural Information Centre (1992)

Gradually the government started to face the need to review its policies in relation to agriculture and to reorientate them towards structural rationalisation of farm units and adaptation of agricultural production to the changing requirements of domestic

consumers. In 1958, a State Committee was established to examine the situation which made its suggestions in 1962 (Singleton, 1986):

- to discontinue the expansion of the agricultural area;
- to replace the existing system of financial incentives and subsidies by a more flexible price policy with marketing levies borne by farmers;
- to place emphasis on quality and efficiency in order to satisfy the domestic market.

These suggestions were accepted and as outlined in OECD (1975) the objectives of Finnish agricultural policy for the 1960's and early 1970's were:

- to maintain the level of self-sufficiency of products that are reasonable to produce in Finnish conditions;
- to promote the development of incomes in agriculture to the level of other sectors of economy.

These objectives were to be achieved by increased productivity and an improved structure of agriculture.

Starting from 1969, measures were taken to reduce the production potential of Finnish agriculture (Land Reserve Programme; Cow Slaughter Scheme; levies on marketing of milk and wheat, later also on pigmeat and eggs). Compensatory payments were introduced for taking the land out of production as it was estimated that Finland had 500 thousand hectares more land in use than needed for satisfying the domestic demand (Westermarck, 1969; OECD, 1975).

On the other hand, Finnish farms were too small to provide sufficient incomes to people working on them. Farm size had to be increased and changes made in farm structure in order to increase farm income. A scheme was set up where pensions were paid to older farmers (over 55) who abandoned farming and support was given to younger farmers who were willing to leave agriculture. The land of those leaving was sold to other farmers to increase their farm size. Some of the land was reafforested. Such measures gave more speed to rural depopulation which resulted in economic and social problems as other sectors of economy were not able to absorb the freed labour, especially in remote areas.

Therefore, in 1963 a Government Committee was established to elaborate special regional development policies. Since then, the importance of rural non-agricultural development in policy objectives has increased (OECD, 1989a). Agricultural policy

measures were made region specific to give more support to communities in more difficult conditions (OECD, 1975).

With the increasing efficiency of agriculture the need for restricting the volume of production became more urgent. In the late 1970's and throughout the 1980's and 1990's various measures were taken to reduce production. In 1983, a special Act on the Regulation and Balancing of Agricultural Production was passed that consolidated earlier measures. In general, subsidised prices were paid for nationally desired quantities of produce. In the case of excess production the price paid to the individual farmer is reduced or a marketing levy is imposed. In addition, the Government enters into voluntary contracts with farmers aimed at reducing arable (since 1977) and livestock (since the early 1980's) production. Under the contracts payments are made to farmers in return for reduced production.

A study, carried out by OECD in the late 1980's (OECD, 1989a), stated the objectives of Finnish agricultural policy as being:

- full self-sufficiency in major food commodities (except sugar);
- safeguarding and developing (i.e. increasing) the income level of farmers while maintaining the retail prices of agricultural products at a domestically acceptable level;
- developing the structure of agriculture;
- maintaining the rural population level.

It was emphasised in the study that the above objectives are not in rank order. To achieve these aims various measures to improve farm structure (i.e. to consolidate land and avoid fragmentation of farms) and efficiency were being offered, such as subsidised loans and grant support for young farmers who started operating a farm. Since 1987, government support was made available for establishing small-scale non-agricultural enterprises in rural areas to stimulate the creation of alternative employment opportunities.

In 1987, the Agriculture 2000 Committee, appointed by the Finnish Parliament, presented its report that contained desirable directions for agricultural and rural development (OECD, 1989a). The report suggested the following:

- farmers' incomes should be maintained on a comparable level with other occupations;

- the structure of farming should continue to be based on family farms and the viability of full-time farms should be encouraged through increased productivity and change of generation on the farms;
- agriculture should use environmentally safe and productive technology and target prices should be oriented to satisfying domestic demand. The need for export subsidies should be eliminated by controlling production;
- resources that are freed by the elimination of export subsidies should be used to develop agriculture as well as other rural occupations, to create jobs, to maintain population levels and improve the income of farmers as well as other rural residents;
- the self-sufficiency level in farm inputs should be raised.

In 1992, Finland formally applied to become a member of the EEC by 1995. Therefore, currently discussions are under way on how to adjust Finnish agricultural policies and how to achieve the acknowledgement by the EEC of the special requirements for support to remote northern and other disadvantaged rural areas of Finland (Kettunen, 1993).

Summary

Between the two World Wars, Finnish agriculture was oriented to improving the level of self-sufficiency and producing livestock products for export markets, originally using imported feed, but gradually also increasing self-sufficiency in livestock feed. In terms of the phases in the orientation of agricultural production and policies, described in Section 5.1, this period could be viewed as a GROWTH and EFFICIENCY period.

After WW II, Finnish agricultural production policy has had an overall objective of first achieving and later maintaining full self-sufficiency in most products suitable for production in Finland in order to ensure food security. The priority was given to achieving full self-sufficiency as a result of loss of territory during WW II and orientation to political neutrality in the years following the war. Thus, the period immediately after the WW II can be viewed as an URGENT GROWTH phase.

Self-sufficiency became a reality in the course of the late 1950's and early 1960's and soon the problems of over-production appeared. Export markets for Finnish agricultural products reduced as production and protection increased in countries that had traditionally been importing Finnish agricultural products. This development in the markets and the high cost of production, resulting from the northern climate, long distances and relatively inefficient farm structure, made expansion of agricultural production over domestic requirements undesirable. Therefore, the government adopted a policy of maintaining production at a level, as close as possible to domestic demand and concentrating on improvements in the quality of products, productivity on farms and farm structure. Considerable financial support was given to production up to the domestically desired level and also to some extent to exports of excess production. Financial support varied between the regions taking account of disadvantages in regions, but it has remained high. Social objectives, such as the need to prevent the depopulation of vast rural areas, that is taking place as a result of unfavourable natural and economic conditions, have an important role in justifying the high level of financial support given to agriculture by the state in the situation where over-production is present.

The orientation in the agricultural policy and production during the period since the late 1950's, when self-sufficiency in most products was achieved and over-production developed, does not strictly conform to the description of either the GROWTH and EFFICIENCY or the SUSTAINABILITY phase in Section 5.1. The period cannot be viewed as a GROWTH and EFFICIENCY phase as no growth was desired in conjunction with increased efficiency. On the other hand the period can not be viewed as a SUSTAINABILITY phase because agricultural production for domestic needs has been strongly supported by the government although over-production has been a problem. Emphasis has been on improving the viability of farm enterprises and quality of farm produce. It would be more precise to call the period a QUALITY and EFFICIENCY phase that later (in the 1980's and 1990's) started to obtain traits of the SUSTAINABILITY phase (in that environmental issues became important, export costs have been suggested to be borne by farmers instead of the government and alternative economic activities to agricultural production have become encouraged in rural areas by public support).

6.3.3. Evolution of the Extension Complex

Publicly Supported Advisory Work

In Finland, the agricultural advisory work that receives government support is carried out by various farmers' organisations. There are several farmers' associations of a general nature and a number of organisations that are specialised according to a branch of agricultural production.

The general agricultural advisory work of farmers' organisations in Finland, has its roots in the late eighteenth century. In 1797, the Royal Finnish Agricultural Society was founded in Turku (Westermarck, 1971; OECD, 1981), which aimed at balanced development of agriculture and raising the educational standard of the agricultural population (OECD, 1981). Gradually similar agricultural societies were set up in all provinces and in 1907 the Central Association of Agricultural Societies was founded. This organisation later split as a result of social, political and nationalist tensions in the farming community. The Swedish speaking societies left the Central Association in 1910 (OECD, 1981) and have since been separate. They formed a new organisation, the Association for Agricultural Societies of Swedish-Speaking Farmers. Also in 1910, a separate organisation was established for tenant farmers, the Association of Small Holders, which split further after the 1922 land reform: the farmers who had been tenants but had become independent, set up their own organisations - the Central Association of Small Holders and the Association of Finnish Small Holders - that provided them with advice and other services (OECD, 1981; Westermarck, 1971).

Since the 1920's, attempts were made to achieve more centralisation and cooperation in the advisory work of the different organisations (Westermarck, 1971; FAO, 1954; OECD, 1981). Finally, in 1970, the Finnish-speaking farmers' organisations merged their general advisory operations. According to Westermarck (1971) the merger was voluntary only formally as the government had threatened to cut the support funds if the merger did not take place. The government also requested that the specialised organisations, promoting various branches of agricultural production, affiliate to the new organisation - the Association of Agricultural Centres. In 1992, the Association of Agricultural Centres was renamed and became the Association of Rural Centres, thus reflecting the change in the

general orientation of their work. Currently discussion is under way about further unification and consolidation of rural advisory work in Finland.

The development in the number of advisers has been difficult to monitor as advisers have been employed by a great variety of organisations each having undergone several reorganisations since their establishment. The available data is also confusing in that some sources do not distinguish between advisers and their assistants. Therefore, the figures relating to the number of advisers, presented in the next paragraphs, are intended to illustrate only the scope of advisory work undertaken by various farmers' organisations. It is not possible to judge on the basis of available information to what extent there has been a change in the number of advisers.

According to FAO (1954) there were a total of 2700 staff working in connection with extension activities in Finland in 1950, including general advisers, specialist advisers and assistants in many fields of agriculture as well as forestry, fisheries, home economics, home industries and youth work. The organisations involved in general advisory work in 1950 are listed in Table 6.3.1 together with the distribution of advisers between them.

Table 6.3.1. Finnish organisations involved in general farm advisory work in 1950

Organisation	Number of Advisers
1. Central Association of Agricultural Societies	1000
2. Association for Agricultural Societies of Swedish-Speaking Farmers	70
3. Central Association of Small Holders	150
4. Association of Small Holders	60
5. Association of Finnish Small Holders	13
TOTAL	1293

Source: FAO (1954)

By 1987 the total number of advisory staff in the organisations of general orientation as well as specialised associations was 2344 (*Maa- ja Metsätalousministeriö, 1989*). This figure includes the insemination and recording

staff of the Association and Societies for Artificial Insemination and Milk Recording Societies totalling to 1037.

Some of the specialised organisations concentrated mainly on research, paying less attention to advisory work. These organisations cooperated closely with the general advisory organisations and belonged to the Association of Agricultural Centres. Table 6.3.2 lists the major specialised organisations that were involved in advisory work in 1950 and 1987.

Table 6.3.2. Specialised Farmers' Organisations in Finland and the number of advisers employed by them.

Organisation	Number of advisers in 1950	Number of advisers in 1987
1. Central Association of Horse Breeding Societies	34	0
2. Sheep Breeders' Society	10	7
3. Bee-Keepers' Association (1945)	4	3
4. Reindeer-Raiser's Association	4	-
5. Horticultural Association	7	10
6. Drainage Society	32	-
7. Finnish Animal Breeding Association		-
8. Ayrshire Cattle Breeding Society	27	-
9. Pig Breeding Society	16	
10. Seed-Growers Association	9	-
11. Poultry-Keepers' Association	10	7
12. Fisheries' Association of Finland (1891)	3	20
13. Finnish Cattle-Breeding Association	52	-
14. Fur-Breeders' Society	13	15
15. Peat Cultivation Society	11	-
16. Work Efficiency Association	65	0
17. Grassland Society	21	
18. Association of Animal Husbandry	-	90
19. Association and Societies of Artificial Insemination	-	556
20. Milk Recording Societies	-	487

Sources: FAO (1954) and *Maa ja Metsätalousministeriö* (1989)

In addition there is a specialised rural home economics advisory organisation - Countrywomen and Homemakers, that incorporated in 1970 the home economics advisory work of three organisations - Agricultural Women, the Association of Small Holders, and Association of Finnish Small Holders. In 1987, there were 88 advisers employed by the Finnish and Swedish speaking rural women's

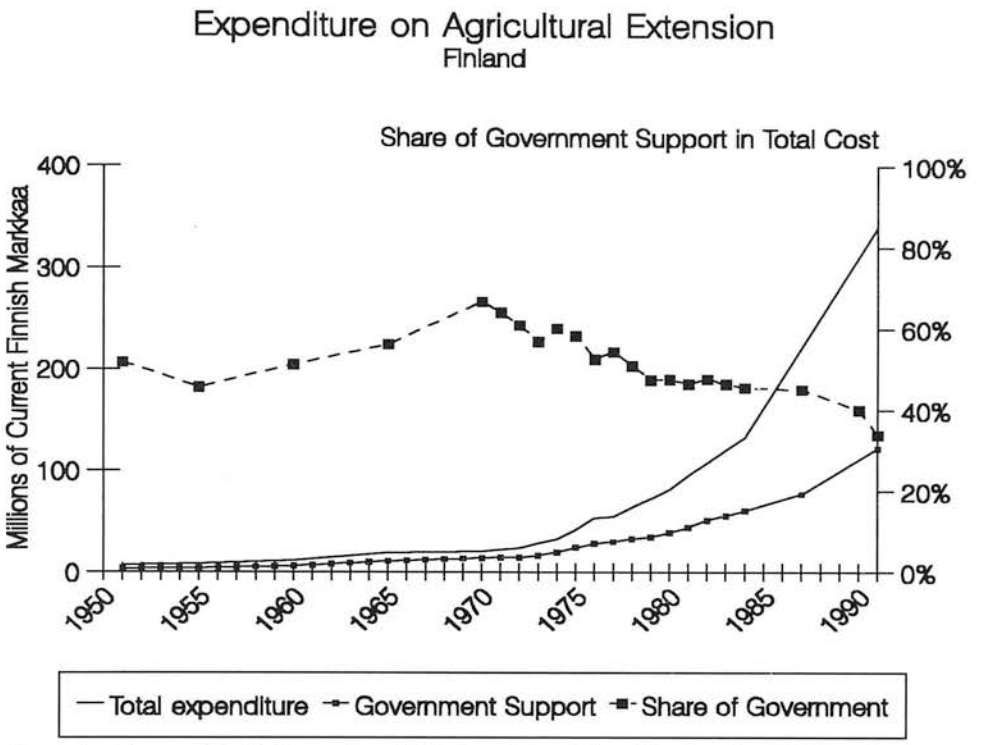
organisations and 340 advisers for youth work in the 4H organisations (*Maa ja Metsätalousministeriö*, 1989).

The advisory work of the farmers' organisations is financed from three main sources: (1) government support, (2) membership subscriptions and investment income and (3) charges for services.

Public financial support to agricultural advisory services had started already in the 19th century (Siitonen, 1990a). The share of government support in funding the services has been varied reaching the peak in 1970 at 65 per cent of all costs for the general advisory organisations (OECD, 1992). The level of support also varies between different organisations. According to the Association of Rural Centres government support currently covers 35 per cent of the total cost of the advisory services and is expected to fall at a rate of 15 per cent annually in the near future (*Maaseutukeskusten Liitto*, 1993). The total government support for 1993 was expected to be 84.2 million Finnish marks. Figure 6.3.8 illustrates the trends in the total cost of advisory services and government support. As presented in Figure 6.3.9, the balance between the sources of funds for advisory work has shifted towards greater emphasis on direct charging for services.

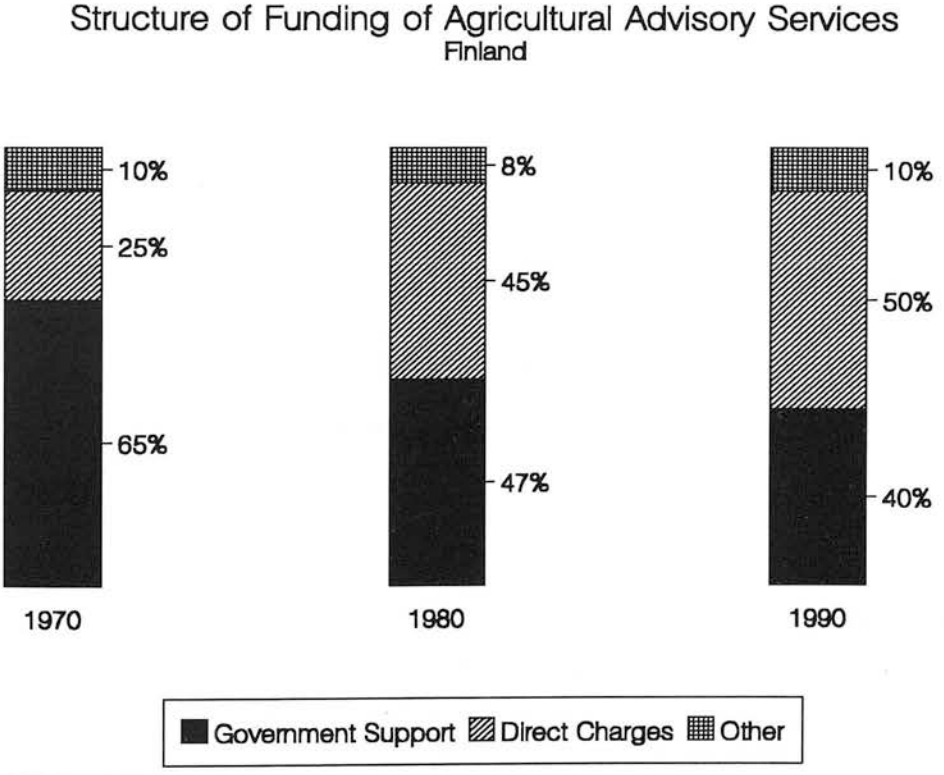
It has not been possible to identify when the charging was first introduced. Nevertheless, Figure 6.3.9 demonstrates that 25 per cent of the costs of the advisory services were covered from direct charges already in 1970. The proportion of income from charges has increased continuously since 1976 replacing cuts of government funding. The government subsidies to different kinds of agricultural production related advice ranged form nil to 60 per cent. Advice on household management issues was also subsidised with the support ranging from 40 to 100 per cent (ADAS, 1985).

Figure 6.3.8.



Source: Compiled from data in Sumellus (1987) and Statistical Yearbook of Finland; various issues
Data for 1990-1991: Maaseutukeskusten Liitto

Figure 6.3.9.



Source: OECD (1992)

Regarding the subjects of advice, Westermarck (1971) has emphasised that since the achievement of self-sufficiency, the advisory work has concentrated on increasing farm efficiency in terms of reducing the production costs and improving the farm size and structure of production whereas earlier the activities were concerned with helping the farmers to increase production, production potential and efficiency. According to OECD (1981), a study was carried out in the 1970's which revealed that approximately 40 per cent of farmers made use of the advisory services. Of them 54 per cent used bookkeeping and taxation advice, 42 per cent used advice on farming techniques, 30 per cent used building design services, 24 per cent used advice on machinery and implements and 11 per cent used advice on home economics and horticultural planning. Also, every third farmer resorted to social advisory services, the percentage being higher amongst older farmers and amongst those in more remote (Northern) areas.

The annual report of the Association of Rural Centres for 1992 (*Maaseutukeskusten Liitto*, 1992) emphasises that advisory efforts are currently concentrated on reducing the production costs in all branches of agriculture as well as on diversifying income opportunities of farm families. Another important topic of advice is environment protection and alternative agriculture. Environmental issues have been a subject of an advisory campaign in the early 1990's (Maaseutukeskusten Liitto, 1992).

In the near future, until 1997, the main categories of activities will be as follows (*Maaseutukeskusten Liitto*, 1993):

(1) increasing the productivity and efficiency of agricultural production in order to reduce production costs and input use and encourage cooperation between farms. This will be the main source for increasing farm incomes;

(2) improving entrepreneurship skills as agricultural production has been increasingly exposed to various production, price and marketing risks. Farming has changed from simply producing to the more complex activity of running a business;

(3) development of new businesses in rural areas that would allow replacement of the declining sources of agricultural income for the rural population. In this respect, the attention in advisory work is currently concentrated on establishing new businesses, but in the future advice on marketing opportunities and improving the marketing process as well as development of services for new businesses will be added;

(4) enhancing the quality of agricultural produce will have an increasing role, especially as the processing industry and consumers are placing increasing demands on the quality of the produce including the first stages of the production chain;

(5) improvement in the protection of nature and environment has been a subject of a special campaign for 1991-1994 called "Common Environment" which has been undertaken to broaden the awareness of the rural community in this respect. In future, environmental issues are expected to become integrated into advice on various branches of production

Local Government Involvement in Advisory Work

In Finland, local government is closely involved in advisory work (ADAS, 1985). This involvement varies form community to community. Three ways of involvement have been identified:

(1) stimulation of the use of advice by subsidising the cost of advice to farmers from local tax money;

(2) employment of advisers by the local authority to facilitate development in the community and opportunities of increasing family income;

(3) establishment of various projects in order to help the community members to develop and improve as individuals and as a community.

Advice from Commercial Organisations

Information about the advisory work of commercial companies in Finland was collected mainly by means of the questionnaire discussed in Section 3.4 and presented in Appendix C. A total of five different responses were obtained from various organisations as indicated in Table 3.4 (in Section 3.4). The information presented in this Sub-Section is based on the respones to the survey instrument. In addition, some very limited information was available from published sources as will be specified below.

ADAS (1985) pointed out that advice is given by agricultural cooperatives. The Pellervo Society, which leads the cooperative movement, unites at least 12 large cooperatives in the membership. The cooperatives advise farmers on subjects related to their field of activity. For example there are cooperatives for meat marketing (Finnish Meat Marketing Cooperative), milk marketing (Valio), input supply and grain marketing (Hankkija). According to Siitonen (pers. comm.) there has recently been a decline in the advisory activities of the suppliers of inputs and of processors of farm produce.

The suppliers of farm inputs. A response was obtained to the questionnaire from a large government owned company, established in the 1920's, producing and supplying fertilizer and chemicals, which started providing advice to farmers in the early 1950's as it was considered that farmers needed more information and advice on how to use fertilizers. The number of advisory staff in the company increased from three in 1950 to 10 in 1970. By 1984, the number of advisers had more than doubled as compared to 1970. Such increase was caused by an increase in advice on pesticide use. Currently the number of advisers is 20, slightly less than in 1984. Since the energy crisis in the early 1970's and with increasing overall attention to environmental problems in the 1980's and 1990's more emphasis has been placed on the application rates for fertilizers and chemicals. The advisory work has been financed from the profits of the company without any direct charges to the farmer.

Another response, from a livestock feed company that currently supplies approximately 60 per cent of the demand in Finland, indicated that the company has been providing advice to farmers at least since the 1960's. Until 1985 the company had a separate advisory service. Since 1985 attention has concentrated on providing appropriate training to sales personnel and equipping them with efficient computerised tools to help them in providing advice and services to farmers.

Organisations concerned with processing and marketing of farm produce. A senior manager of the advisory and technical services of a major milk processor, the shares of which are held by several local dairies, indicated in his response to the questionnaire that the company has been providing advice to farmers since the 1940's with an objective to improve the quality of milk supplied to the dairy industry and to help the farmers to produce milk economically. The number of advisers employed by the company has changed considerably in the last three decades: between 20 and 30 in the 1970's, between 70 and 90 in the 1980's and

approximately 60 in 1993. The respondent associated the increase in the number of advisers during the 1970's and 1980's with the introduction of more strict control on dairy heard management and higher demands on milk quality. The decrease, that occurred in the late 1980's and early 1990's, resulted from the decreasing number of milk producers. The ratio of farmers per adviser has been stable during the decrease at approximately 500 farmers per adviser. The farmers have been charged a fee for the services through the local dairies. The advice has always been concentrated on the issues affecting the quality of milk, but the term "quality" has obtained a wider meaning as time passed. The topics have included milking, udder diseases, feeding, feed production (especially silage making) and more recently issues related to various residues in milk. In addition to its own advisory activities, the milk processing organisation has been supporting (incl financial support) the activities of milk recording societies that, among other services, also provide advice on more general issues of dairy husbandry.

The Finnish sugar-beet processing industry has been providing advice to farmers for several decades. The respondent, a person with a longstanding experience in the Finnish sugar industry, identified that a special central research institution was established in 1968 and started providing advice in 1969. Currently there are three sugar processing plants in Finland that each have four to six advisers in addition to three advisers who work in the research organisation. The respondent identified that the total number of sugar-beet advisers was 45 in 1970, 38 in 1980, 26 in 1990 and 19 in 1993. The number has declined as the number of sugar-beet growers has declined from 14000 in 1970 to 4000 in 1993 and the average area of sugar-beet per grower has increased from 1.2 to 7.8 hectares in the same period. Also it was emphasised that the growers have become significantly more knowledgeable and active in obtaining new information which has reduced the need for advisers. The topics of advice have become increasingly specific to sugar-beet growing and general issues that were on the agenda in the 1970's have become negligible in importance. Information on the general issues of sugar-beet growing has become offered through a specialist journal and other advisory literature. Advisory work has been mainly financed by the processing industry, but recently a proportion has been funded from charges for analyses and fees for services.

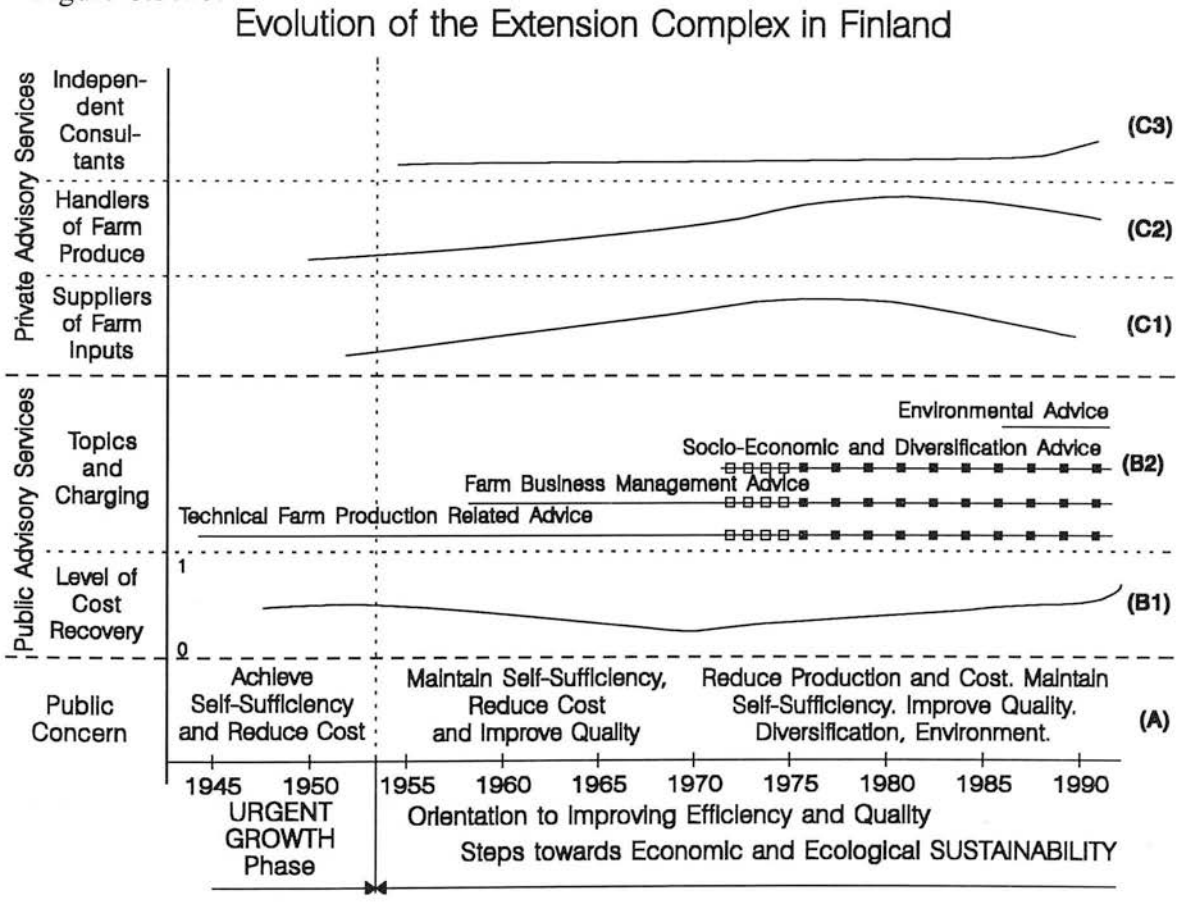
All respondents were asked about the development of advisory services offered by *independent consultants*. It was indicated that the first independent consultants were established in the 1950's. In the 1960's and 1970's more were established but the

increase was very low. According to Siitonen (1990b) the number of independent consultants involved in rural areas has increased in recent years, especially in the field of new subject areas such as enterprise development and marketing where the existing advisory services do not have long established expertise.

Summary

The developments in the Extension Complex of Finland after WW II have been graphically summarised in Figure 6.3.10 using the same format as for Figure 4.23. The phases in the development of agricultural policy objectives, identified in Section 6.3.3 have been added to the format.

Figure 6.3.10.



6.3.4. Validation

General

The special natural and geographic conditions in Finland together with international politics and the trade policies of foreign countries have resulted in Finnish agricultural policy being orientated during the period after the Second World War first, to achieving and then, to maintaining self-sufficiency in food. As discussed in Section 6.3.2, the immediate post-WW II years are the only period after the Second World War that conforms to the description (in Section 5.1) of any of the phases in policy orientation, namely, the URGENT GROWTH phase. The rest of the period does not conform precisely to either the GROWTH and EFFICIENCY or the SUSTAINABILITY phase and requires special attention.

Therefore, if looked at strictly, the data about developments in Finland can be used for validating the Conceptual Framework only with regard to the URGENT GROWTH phase. This will be carried out in the next Sub-Section using Figure 6.3.11.

Although the developments in the Finnish Extension Complex after the URGENT GROWTH phase do not strictly comply to any of the three phases described in the Conceptual Framework, a number of similarities exist with the changes related to the SUSTAINABILITY phase. Therefore, a separate comparison, using Figure 6.3.12, is carried out in the Sub-Section after next in order to outline the differences and similarities.

The URGENT GROWTH Phase

The developments in the Finnish Extension Complex during the URGENT GROWTH phase are presented in Figure 6.3.11 in the format of the Conceptual Framework for comparison with the Framework.

Figure 6.3.11.

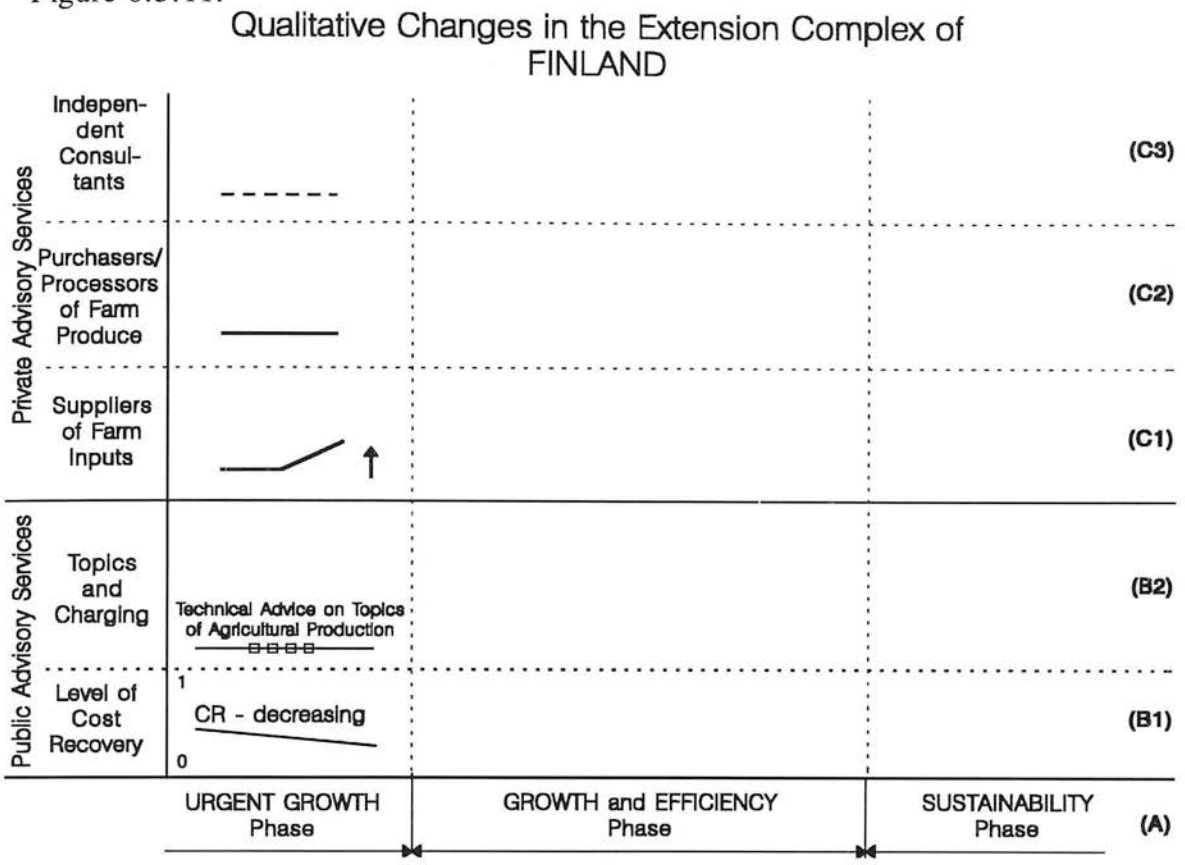
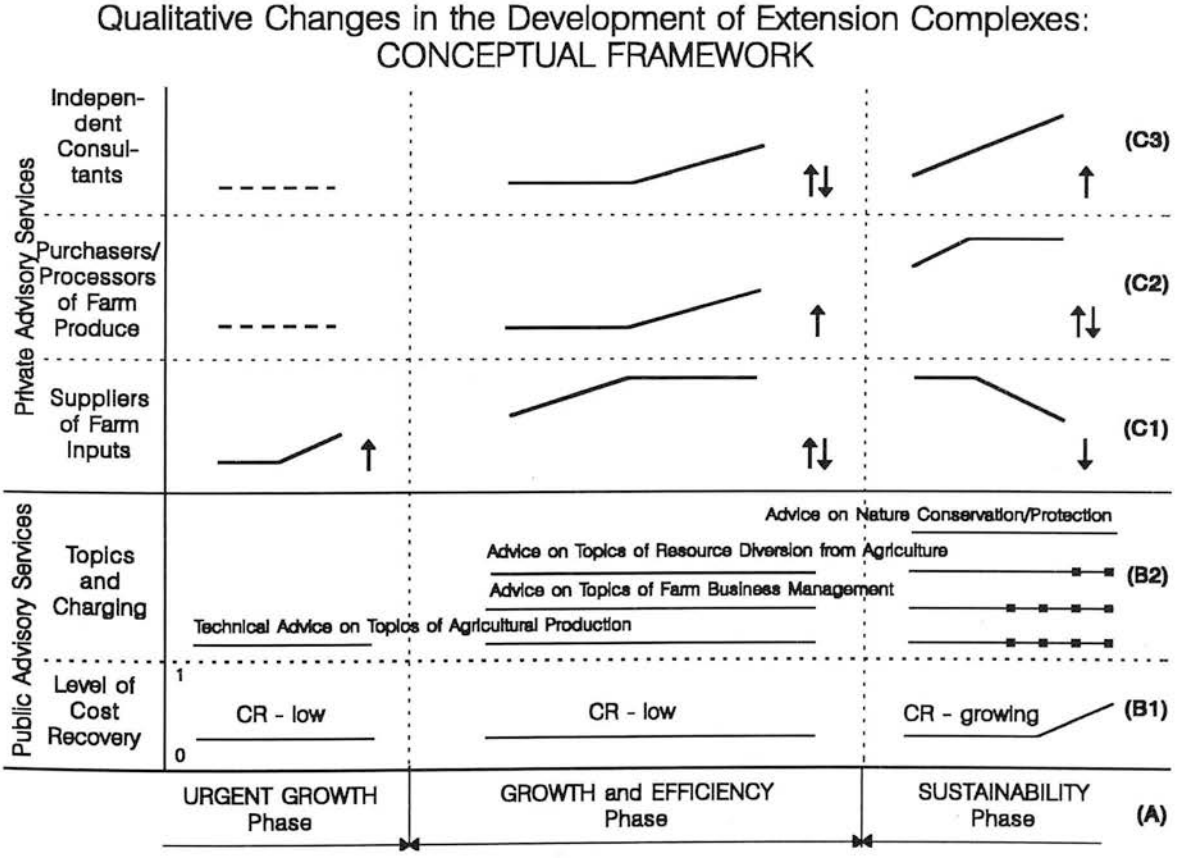


Figure 5.1. (repeated for ease of comparison)



Layer (B) - The *publicly supported advisory services* concentrated their efforts mainly on advice on various technical issues of farming (B2). The level of cost recovery from the farming industry decreased during this phase as the share of public support in financing the advisory work increased. This development (CR - decreasing), although not matching exactly the Conceptual Framework (CR - low), is consistent with the Framework in that the level of cost recovery moved towards a lower level during the phase having been relatively high in the earlier period. It has not been possible to identify if farmers were charged for advisory services or whether the cost was recovered by subscriptions or other means. This uncertainty is indicated with box-markers on the line in layer B2 as opposed to full markers on the subject lines in the Framework.

Layer (C1) - The *suppliers of farm inputs* became involved in providing advice to farmers encouraged by the orientation of government policies towards increasing the volume of agricultural production and by the need to explain the benefits of various new inputs that were introduced (upwards arrow).

Layer (C2) - The information available about the *organisations concerned with processing and marketing of farm produce* suggests that some organisations started providing advice during the URGENT GROWTH phase. Specifically, the milk processing industry was mentioned. It is interesting to note that milk was one of the first farm products in which self-sufficiency was achieved. Saturation of markets together with the need for reducing the seasonality of milk supplies increased the scope for milk processing organisations to become involved in providing advice.

Layer (C3) - The information about *independent consultants* suggests that they started to emerge during the period subsequent to the URGENT GROWTH phase. No indication was given of any activities by independent consultants in relation to agriculture or rural areas in the URGENT GROWTH phase.

Period After the URGENT GROWTH Phase.

In the Finnish case, it has been difficult to distinguish a GROWTH and EFFICIENCY phase in the orientation of agricultural policy after WW II. The

URGENT GROWTH phase was relatively short and oriented to achieving self-sufficiency in most products that can be produced in Finland. As growth was required only until the achievement of self-sufficiency and as this aim was accomplished in a short time, there was no need for developing an orientation to growth and efficiency.

Instead, the policy orientation shifted to improving the efficiency of farming and the quality of farm products without increasing the output. This combination of objectives is characteristic to the SUSTAINABILITY phase, especially as over-production was present. Despite the problems of over-production, significant financial support from the government to farming was continued. The issues of reducing surplus production have been addressed through the introduction of various quantitative restrictions. The fact that financial support has continued on a high level is inconsistent with the description of the SUSTAINABILITY phase in Section 5.1 in the economic sense. The high level of support for agricultural production has been justified with the need to support rural communities and employment opportunities in order to prevent the depopulation of remote areas that are economically disadvantaged by remoteness and agriculturally disadvantaged by northern location. Kola (1993) has viewed Finland as being a part of a special group of "arctic and alpine" countries (together with, e.g. Norway and Switzerland), where agriculture has relatively small economic importance and a different socio-demographic role than elsewhere.

If the continuation of high financial support to agricultural production is left aside, there has been a number of similarities in the policy orientation with the SUSTAINABILITY phase. In addition to the objective of improving the quality of produce and efficiency of production, already mentioned above, increased attention has been paid to the environmental sustainability of agricultural production and orientation to development of rural communities (social sustainability).

Therefore, it was considered useful to compare the developments in the Extension Complex during the period after the URGENT GROWTH phase to those proposed in the SUSTAINABILITY phase of the Conceptual Framework in order to see if similarities exist regardless of differences in policy orientation. The comparison is illustrated in Figure 6.3.12.

Figure 6.3.12.

Qualitative Changes Characteristic to the SUSTAINABILITY Phase in the Extension Complex of FINLAND

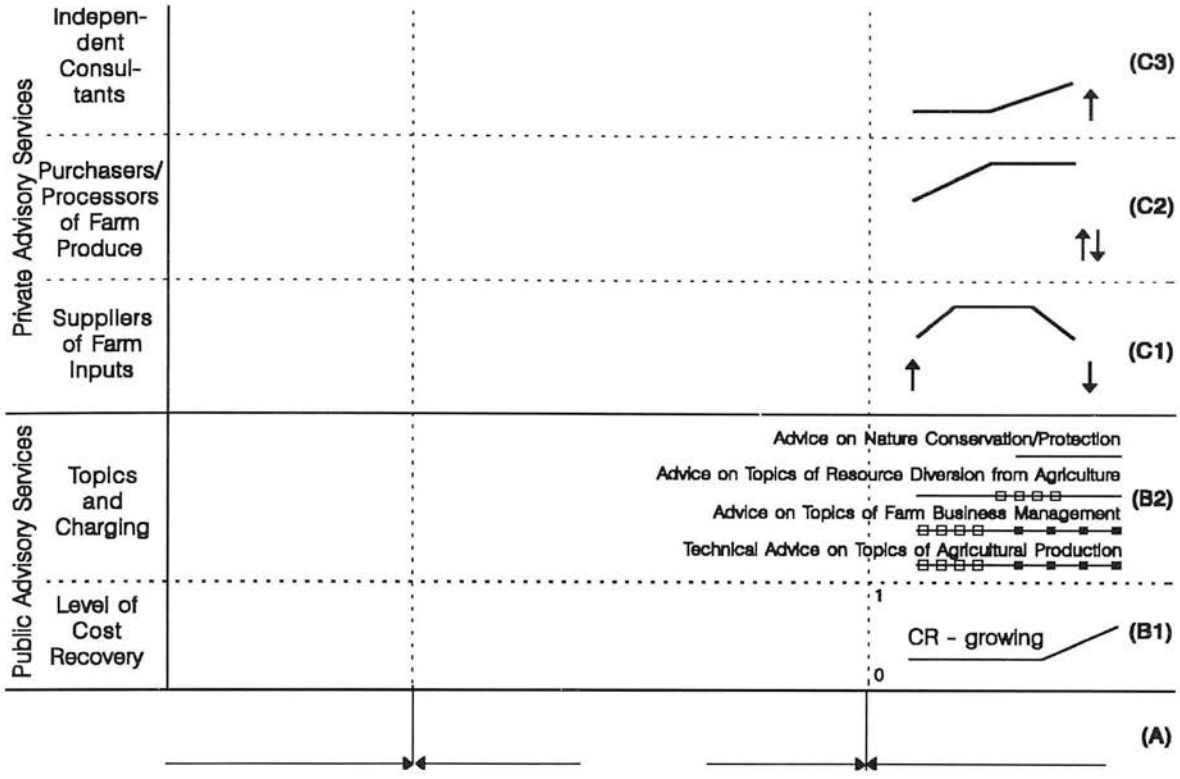
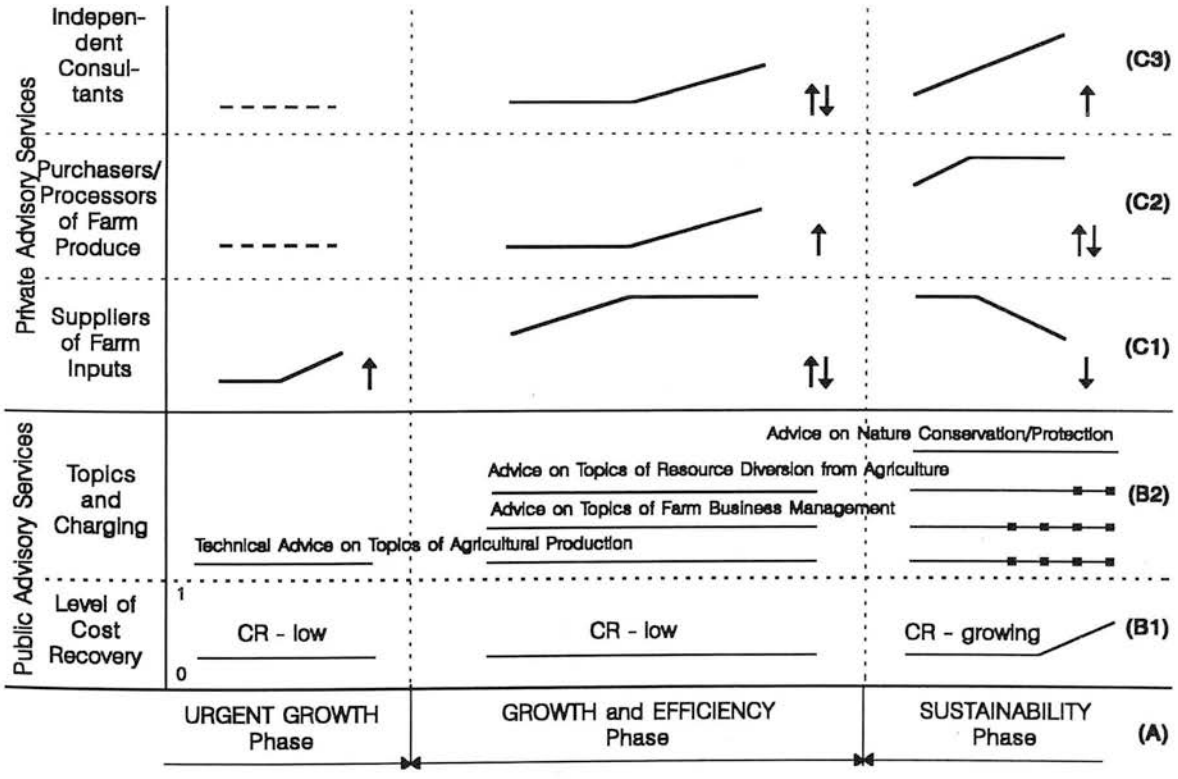


Figure 5.1. (repeated for ease of comparison)

Qualitative Changes in the Development of Extension Complexes: CONCEPTUAL FRAMEWORK



There have been several qualitative changes in the Finnish Extension Complex that are characteristic to the SUSTAINABILITY phase in the Conceptual Framework. These changes can be outlined as follows:

Layer (B1) - Government financing of the public (publicly supported) advisory services was reduced after over-production emerged, which has brought along a considerable increase in the cost recovery from users (B1) mainly by increased charging for specific services (B2).

Layer (B2) - During the period, the orientation of the public advisory services shifted from agricultural development towards rural development. Advice became provided on issues of farm diversification, non-agricultural entrepreneurship in rural areas. Issues related to pollution from agriculture and cleanness of farm products have been incorporated into advice on other subjects as well as being dealt with by a special campaign. These developments are oriented to improving the ecological, economic and social sustainability of rural communities.

Also, advice became available on farm business management and on socio-economic problems related to the increase in the efficiency of farming and changes in the farm structure. Although the emergence of such subjects has been attributed to the GROWTH and EFFICIENCY phase in the Framework, the subjects are also characteristic of the SUSTAINABILITY phase. Therefore their emergence is logical in the latter especially as the former was very short or nonexistent.

Layer (C1) - The provision of advice by input supply companies reached a peak and started to decline during the period after the URGENT GROWTH phase. In the Finnish case, most of the developments in the advice provided by the input suppliers took place during the period after the URGENT GROWTH phase.

As over-production became a problem, an expansion of agricultural production was no longer desired. Thus, expansion could not have an increasing effect on the scope for the provision of advice by the input suppliers. The fact that financial support to agriculture has been maintained has, on the other hand, helped to maintain the sales of inputs and therefore the scope for provision of advice. The introduction of new inputs and the increasing complexity of using such inputs originally increased the scope for maintaining advisory services. Increasing efficiency and specialisation in agriculture, declining number of farmers and the improved level of their education

together with growing concern about extensive use of chemicals in farming have had a suppressing effect on the scope for the provision of advice by individual input supply companies.

Layer (C2) - During the period that followed the URGENT GROWTH phase, the involvement of organisations concerned with farm produce in the provision of advice increased as improvement in the quality of farm produce became important in enhancing the performance of such organisations. Recently, the scope for maintaining such advisory services has started to decline following the reduction in the number of agricultural producers as a result of specialisation and the improved education of farmers. Nevertheless, advice from this group remains important as more demands are placed on the quality of food products.

Layer (C3) - The number of independent consultants has increased during the period, especially in recent years, as alternative enterprises are being established in rural areas and as farmers require specialist services.

Conclusions

It can be concluded that the dynamics of the changes in the Finnish Extension Complex has been consistent with the changes described in the Conceptual Framework in so far as the development of agricultural policy objectives has been consistent with the orientation of objectives described in the Framework.

The differences that became explicit in the orientation of agricultural policies and production after the URGENT GROWTH phase suggest that special attention is required for countries in locations where the geographical and climatic conditions make agricultural production difficult to sustain economically. In these locations, strong support may be given to agricultural activities by the state in order to maintain the livelihood of rural communities.

6.4. The Case of the Netherlands

6.4.1. Agriculture and the Nation

Physical Background

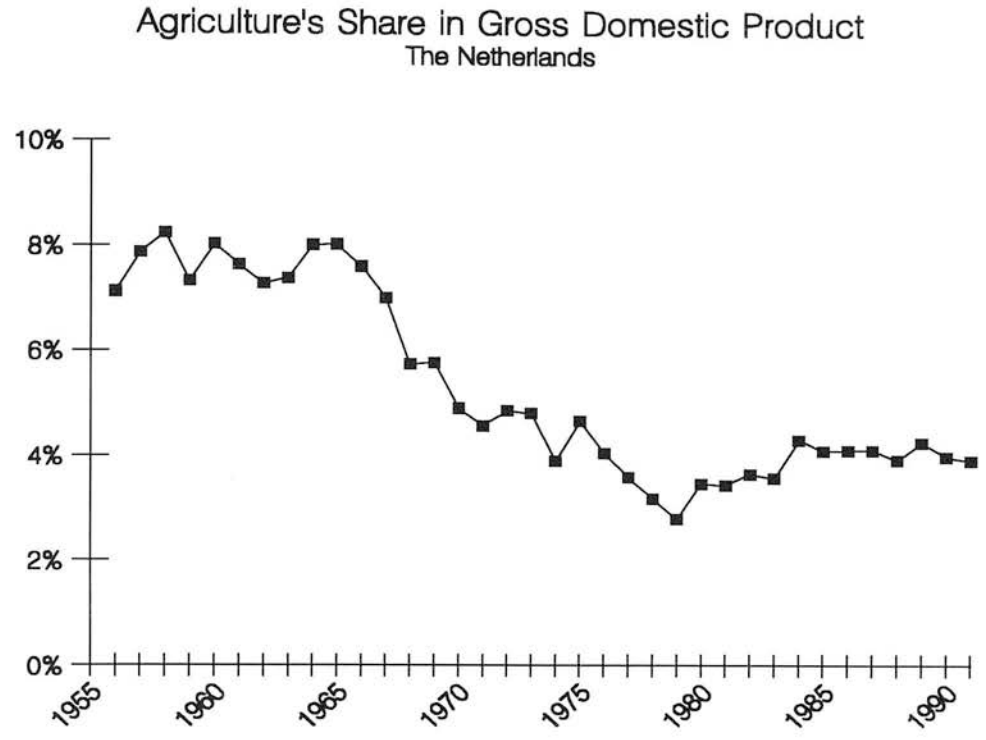
The Netherlands are one of the most densely populated countries in the world with 438 inhabitants per square kilometre in 1987 (De Cock Buning and Verheijen, 1990). The total area of the country is 3,980 thousand hectares of which 50.7 per cent is agricultural land, 8.3 per cent is woodland, 8.5 per cent is under water and 32.5 per cent is used for other purposes (Eurostat, 1991). The scarcity of land and the high concentration of population are factors that strongly influence life in the Netherlands.

The Importance of Agriculture for the Nation

Agriculture is one of the corner stones of the Dutch economy. The trend in agriculture's share in the formation of Gross Domestic Product is illustrated in Figure 6.4.1. It has declined from eight per cent to four per cent over the period after WW II, but together the food processing industry and agriculture contributed 12.5 per cent to the national income in 1987.

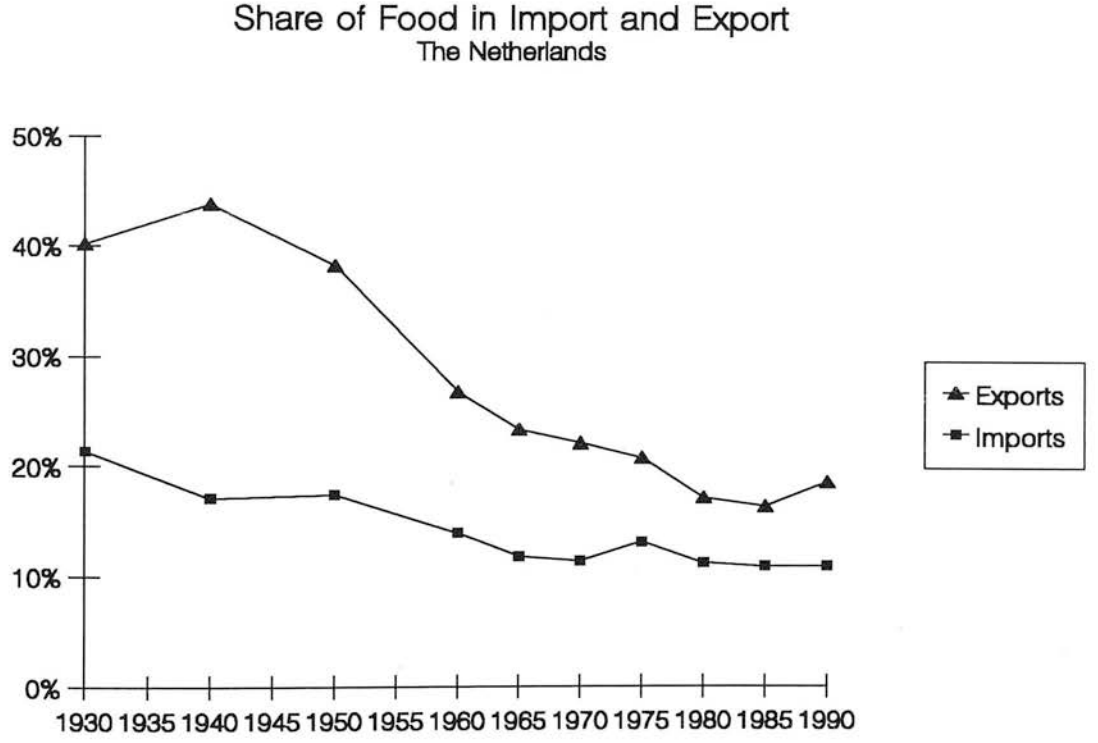
In general, the economy of the Netherlands is open and depends heavily on foreign trade as the country is relatively poor in extractable resources. The Netherlands have been traditionally an agriculture exporting nation except for the period during and immediately after the World War II when food supplies were scarce and rationing was in force. The trends in agriculture's share in Dutch imports and exports are illustrated in Figure 6.4.2. Much of the agricultural production and therefore agricultural exports depend on imported agricultural inputs such as animal feed and fertilisers as well as energy. The domestic supplies of energy have increased significantly since the discovery of natural gas and North Sea oil. For horticulture these supplies have an important role in intensive glass-house production.

Figure 6.4.1.



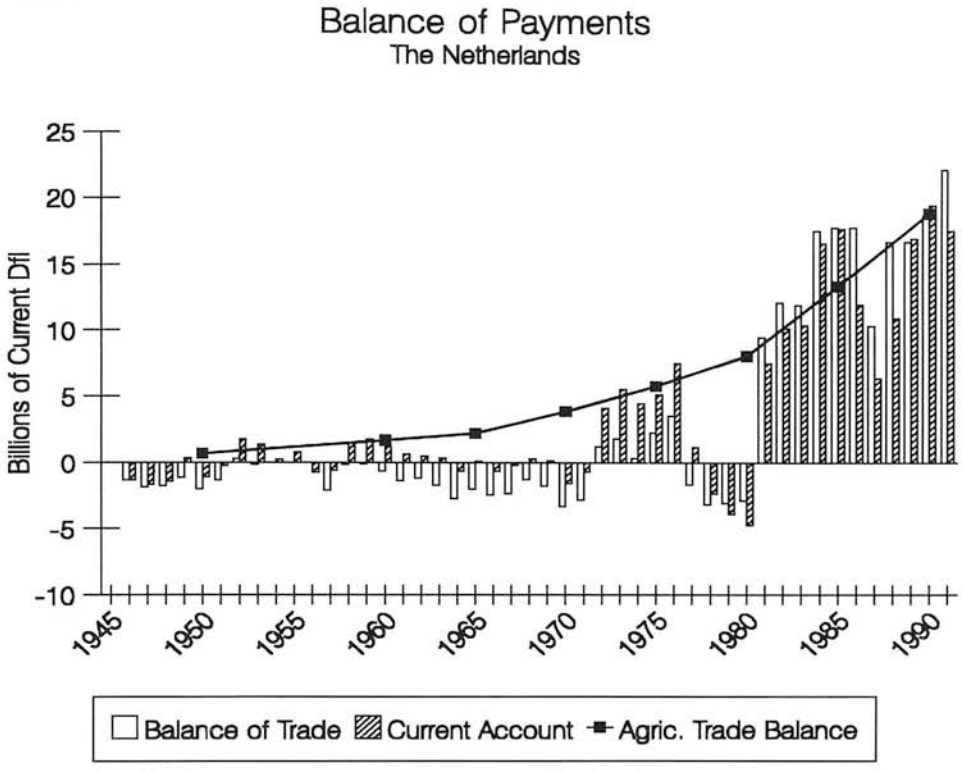
Source: Statistical Yearbook of the Netherlands; various issues

Figure 6.4.2.



Source: Statistical Yearbook of the Netherlands; various issues

Figure 6.4.3.



Source: Statistical Yearbook of the Netherlands; various issues

The positive balance in agricultural trade has had a significant role in achieving a positive balance of trade in general and a surplus of the current account as can be seen on the Figure 6.4.3. The trends in self-sufficiency of selected agricultural products, shown in Figure 6.4.4, illustrate the extent of export orientation of Dutch agriculture as well as the need for imported feed grain.

Agriculture's role in civilian employment has gradually declined from 20 per cent in 1947 to just above five per cent in 1990 (Figure 6.4.5), thus being amongst the lowest in the EEC. Nevertheless, just over 10 per cent of the total jobs were agricultural or agriculture associated in 1987 (MANMFN, 1991). The decrease in agricultural employment was fastest in 1950's and 1960's when rapid industrialisation took place in the Netherlands. This development, together with changes in farm structure (Figure 6.4.6) reflect an increase in the productivity of Dutch agriculture.

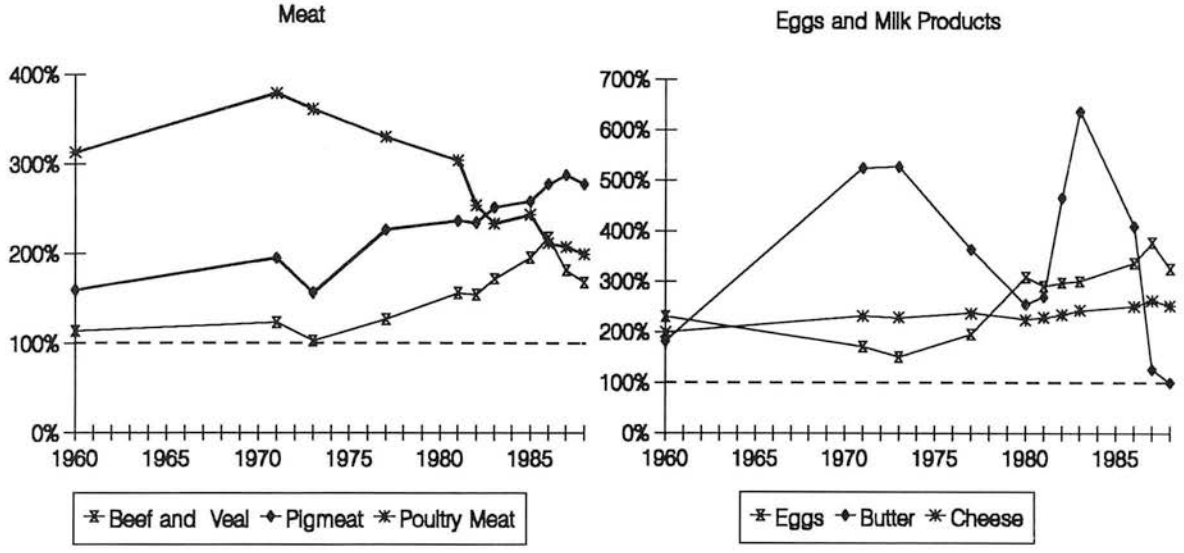
In conclusion, it can be said that although the importance of agriculture has declined in the economy it still has a crucial role in ensuring the nation's well-being through its export earning capacity. In a different perspective, agriculture has gained more

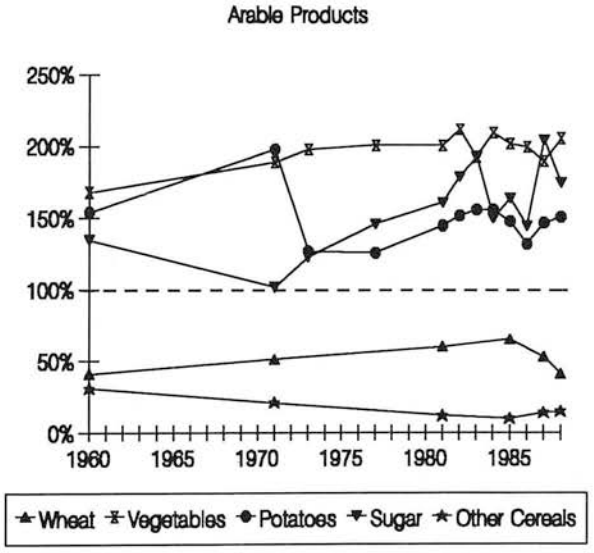
and more attention in the society as a significant contributor to the deterioration of the environment.

Figure 6.4.4.

Trends in Self-Sufficiency of Selected Agricultural Products

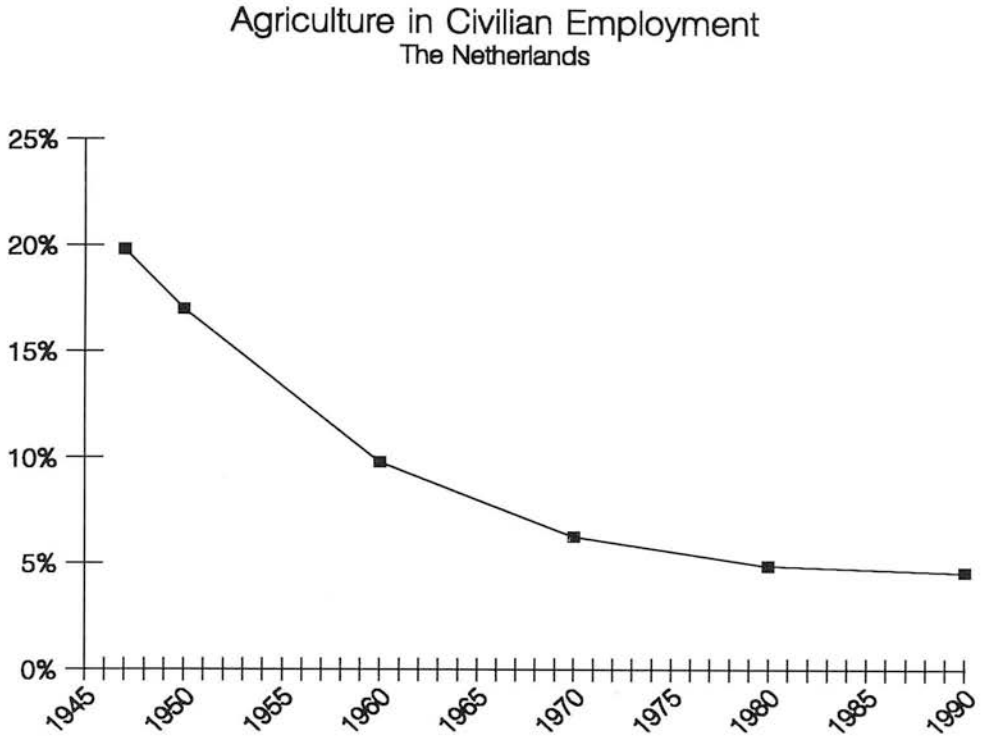
The Netherlands





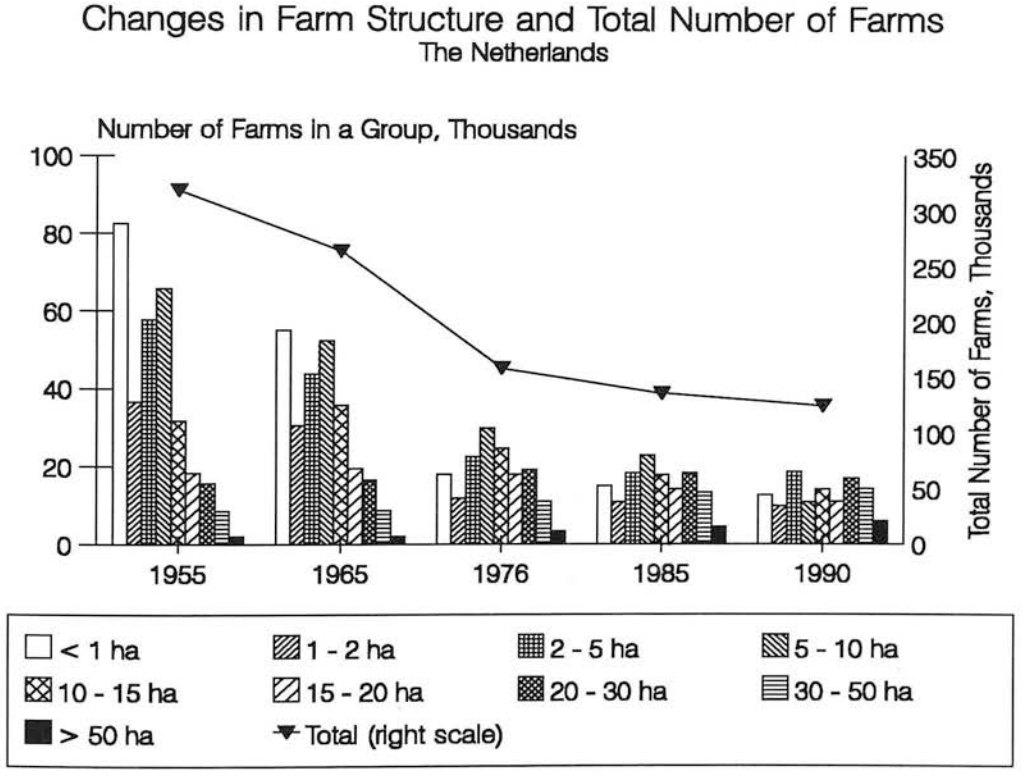
Sources: MAFF (1975), MAFF (1980), MAFN (1986), MANMFN (1991)

Figure 6.4.5.



Source: Statistical Yearbook of the Netherlands; various issues

Figure 6.4.6.



Source: Statistical Yearbook of The Netherlands; various issues

6.4.2. Development of Agricultural Policy Objectives

In the middle of the last century the demand for agricultural products started to increase as the industrial revolution resulted in overall economic growth and in an increase of non-agricultural population. Geographically the Netherlands were suitably located in relation to industrial areas of the United Kingdom and Germany. This has had a major influence on the development of the Dutch agriculture that became heavily oriented to export markets.

When in 1880's the agricultural depression developed in Europe resulting from cheap grain imports from Russia and America, the government of the Netherlands took the course of improving the competitive capabilities of the country's agriculture rather than erecting protective tariff barriers (MAFN, 1968) as was common in many neighbouring countries. Attention was turned to intensifying education, research and advisory work. Since then research, education and advisory work have been viewed as an important policy instrument by the Dutch government.

World War I brought the issues of food security and domestic food supply onto the policy agenda (Bijkerk and van Oostrom, 1983) as supplies of imported inputs for agriculture were disturbed by blockade on the sea and by hostilities. Thus more impetus was given to reclamation of land at Zuiderzee which among other benefits allowed for improvement in the domestic production of cereals.

During the crisis of the 1930's, the Dutch government abandoned its long lasting policy of free trade in relation to agriculture. It became necessary to protect domestic markets from cheap imports of agricultural inputs and support exports of produce. The supply of goods for export was also controlled to prevent prices from falling too far. A complex set of measures was introduced on an *ad hoc* basis, both in relation to imports and exports as need for the measures emerged (Tracy, 1989). Offices overseeing the situation on the markets of individual commodities were established resulting in the creation of an extensive network of organising and planning in agricultural markets.

The period of the WW II years and immediately after can be described as a period of shortages and rationing. Agricultural policy measures were concentrated on meeting the country's own food demand. Rationing finished in 1952 with the last

commodity freed being coffee (Griffiths, 1980). The general economic policy of the government during the first post-war years was concentrated on restricting imports as much as possible in order to improve the balance of payments on current account and to make the country independent from foreign loans and aid (Griffiths, 1980). This aim was later replaced with broader objectives of achieving economic growth and a healthy economy. Balance of payments equilibrium remained high in importance and agriculture's role in achieving these aims was significant (Figure 6.4.3)

OEEC reports, that the general aim of the Dutch agricultural policy was defined as (OEEC, 1956, p. 143):

> *"the creation of such conditions as will enable the agricultural industry to contribute in the largest possible measure to the national wealth"*

It was pointed out that there were no specific production objectives and that agricultural production should be aligned with existing outlets. The latter reflected an emerging surplus in agricultural products as compared to existing marketing opportunities. The opening of a market in the EEC for Dutch agricultural products in the late 1950's enabled the Dutch food sector to continue exporting. Difficulties in finding outlets had already emerged, overcoming of which would have required to implement policies either to offer support to exports or to restrict production (Huizinga and Strijker, 1986). An active agricultural income policy was pursued and applied through price mechanisms and aimed at providing (OEEC, 1956, p. 144)

> *"... a reasonable livelihood for those who work on farms which are efficiently managed and economically and socially justified."*

This broad orientation of the policy towards maximising the contribution of agriculture to the national product and optimising national resource use as well as safeguarding agricultural producers' income levels persisted until the end of the 1970's (OEEC, 1956; OEEC, 1961; OECD, 1966; OECD, 1973) as it was consistent with the CAP objectives.

The emphasis was on achieving growth and increasing agriculture's efficiency and productivity and therefore its competitiveness. Land consolidation and increasing the farm size became crucial in achieving this aim. Organisational and financial assistance was made available to farmers under national and EEC policies in creating farm sizes that would enable economically viable production.

Early in 1977, the Dutch Minister of Agriculture and Fisheries presented the Memorandum on the Future Structure of Agriculture (MAFN, 1979). The report further reinforces a shift in priorities (already mentioned in OECD (1973)) caused by increasing energy costs, reduced rates of growth in agriculture and in the economy in general and by increasing demands on the land from other sectors. The memorandum concluded that efficient agricultural and horticultural sectors remained very important for the Dutch economy and proposed to facilitate structural improvements and to further the orientation of production to existing marketing opportunities. It emphasised that selective rather than unlimited growth is required, oriented to potential markets and taking notice of factors such as protection of the environment, landscape and countryside conservation and energy conservation. The environmental issues had emerged in the Netherlands relatively early (in the 1960's) in comparison with other European countries as a result of high concentration of population and economic activities in the urban as well as rural areas.

Continuing expansion of agricultural output of the EEC resulted in the achievement of self-sufficiency in most agricultural products in the EEC level and in the development of surpluses. This lead to the introduction of policies aimed at limiting the volume of production during the 1980's and increasingly in the 1990's. According to the Dutch Ministry of Agriculture and Fisheries (MAFN, 1989), about 35 per cent of the Dutch agricultural production consists of highly regulated products (e.g. cereals and milk). The emphasis in production is expected to shift towards sectors of Dutch agriculture where little or no market regulation exists.

The general aim of the current Dutch agricultural policy is stated in the Agricultural Structure Memorandum as that of furthering (MAFN, 1989, p. 2):

> *"... a competitive, safe and sustainable agriculture"*

The policy thus focuses on two themes: market-oriented production and achieving sustainable systems of production, especially in view of environmental quality requirements.

To summarise the development of agricultural policy objectives in the Netherlands, the following can be noted:

1. As agriculture comprises an important sector in Dutch economy and exports, the policy has been generally directed to increasing the efficiency, competitiveness and therefore the export earning capacity of the sector throughout this century;

2. In specific periods, as the conditions have changed, the objectives have also varied within this broad orientation. These periods can be outlined as follows:

- 1880's - crisis of the 1930's - market oriented production without government interaction in markets with an exception during the First World War when increase was encouraged in domestic production of products that were normally imported;
- crisis of 1930's - reduction of production to maintain prices, organisation of markets;
- following the German occupation during WW II, the emphasis was laid on rebuilding agriculture and rapidly increasing production to satisfy domestic demand;
- after the end of shortages in early 1950's orientation shifted again to exporting and following the establishment of EEC expansion was encouraged in agriculture to increase exports to EEC's internal market;
- as the EEC self-sufficiency in food products increased and as over-production became a problem in the late 1980's and the 1990's the CAP became reoriented to reducing the output. Expansion became possible only if markets were found.

In the period after the World War II, the three phases in policy orientation, defined in the Conceptual Framework (Section 5.1), can be distinguished:

The URGENT GROWTH phase	WW II - early 1950's;
The GROWTH and EFFICIENCY phase	Late 1950's - early 1980's;
The SUSTAINABILITY phase	Mid-1980's - 1990's

6.4.3. Evolution of the Extension Complex

Public Agricultural Extension Services

As already mentioned in the previous Section, in the Netherlands, the government's involvement in providing advice and information to the farming community started during the agricultural crisis of the 1880's. It was aimed at increasing the Dutch farmers' ability to compete in the world markets. In the early stages, advisory work was organisationally linked to teaching activities at the predecessor of the Wageningen Agricultural University. A separate advisory service was set up in 1910. Growth in the advisory service can be illustrated with the development in the number of advisory officers (Table 6.4.1). The advisory service grew significantly in manpower from after the agricultural crisis of the 1930's, when the first local farm advisers were appointed, until the period after WW II, when efforts were concentrated on repairing the war damage (OECD, 1981).

Table 6.4.1. Number of Advisers at the Dutch Governmental Advisory services

Year	Number of Advisers
1910	50
1930	100
1940	400
1945	1000
1950	1255
1960	1219
1970	1350
1980	1233

Sources: Penders (1963), OEEC (1960), OECD (1981), Draisma and Vriesen (1970)

The Government Agricultural Advisory Services were reorganised during 1963-69 (OECD, 1981) in order to achieve compatibility with structural changes in agriculture and better coordination between various specialised branches of extension (Vos, 1977). Farm size had grown (Figure 6.4.6) and farm enterprises had become more specialised. The reorganisation aimed at developing better links between extension and research organisations and to enhance cooperation between the Government Agricultural Advisory Service and the Socio-Economic Extension

Services of farmers' organisations that were also heavily subsidised by the government. The reorganised governmental advisory service was renamed the Farm Development Service.

In the late 1970's, the need to adjust extension services appeared again. The public advisory services could no longer meet the increasing demand for advice and information (Lint, 1985). In June 1979, a report of the National Council for Farm Development analysed the problems associated with the gap between the supply-capacity of the services and demand from the growers and made suggestions for adjustments (Lint, 1980). A policy plan for agricultural extension was developed and implemented from 1981 onwards. Extension was considered to be an instrument of national agricultural policy which aimed at assisting the agro-food system in becoming strong and self-reliant (Lint, 1980). Further expansion of the service was considered impossible. Therefore, a general approach was adopted to make better use of the existing resources.

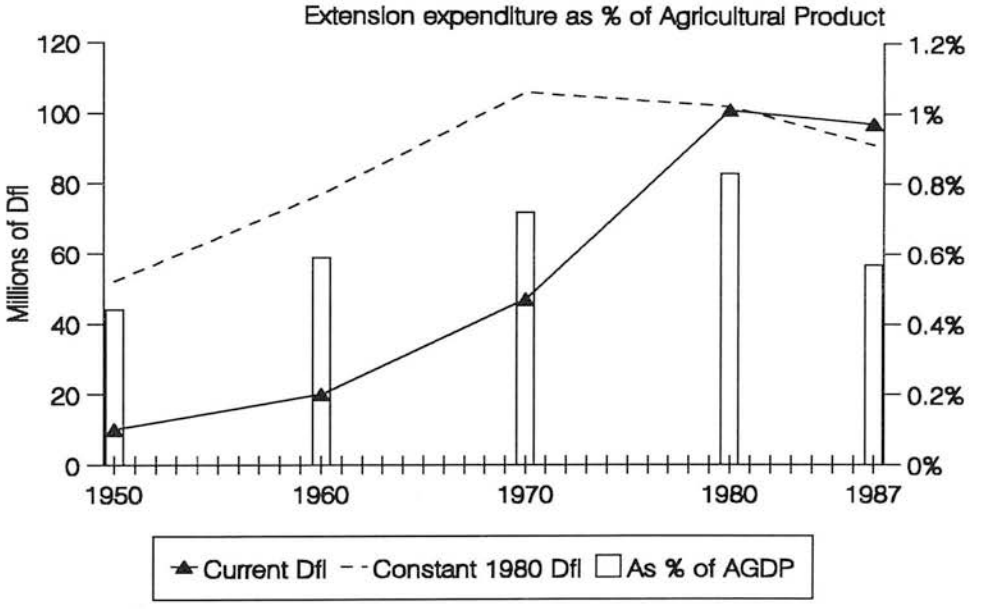
The Long Term Programme for Agricultural Extension of 1981 suggested two directions for this: (1) changing the activities within the government extension services and (2) developing cooperation with private advisory services. Within the first group the priority was given to increasing the share of group activities at the expense of individual farm visits, concentrating on developing farmers' entrepreneurial skills as opposed to giving "remedial" advice, and continuing advisory work on issues of developing the farm structure. In the second direction the Government services were to seek cooperation with private services, to pass on new know-how to private services and, more broadly, the government and private services were encouraged to tailor their activities to one another (Lint, 1985).

Further moves towards reducing the government's involvement in the provision of advice followed in the late 1980's and early 1990's. Since 1986 a gradual process of reorganisation and privatisation has taken place. First, the functions of the existing Governmental extension service were separated into three organisations (ANDA, 1991; Bos, 1989). The first group of organisations, the IKC ("Information and Knowledge Centres"), became responsible for transferring information between research and advisory services of all sectors. This group is fully financed by the government. The second, Provincial Agricultural Policy Offices with regional advisers who assure distribution and respect of official regulations (including regulations on pollution and environment), acting as experts for regional authorities,

is also fully financed by the state. The third, Agricultural Extension Service (DLV), is specialised in technical-economic advisory work. The DLV was fully financed by the government until 1993. From 1993 onwards the agricultural sector will have to pick up part of the cost of providing the service until the industry's share reaches 50 per cent in 2002. It is proposed that the 50 per cent contribution of the agricultural industry should be composed of at least 15 per cent of general levy on producers and 15 per cent of direct invoicing. The remaining 20 per cent can be decided either way (ANDA, 1991). The development of government funding of the extension services is illustrated in Figure 6.4.7. From 1993 onwards the DLV will become a foundation, thus the advisers change their employment status from civil servants into employees of the Foundation (ANDA, 1991).

Figure 6.4.7.

Government Expenditure on Agricultural Extension
The Netherlands



Based on three year averages
Source: van der Meer et al (1991)

Topics of Publicly Supported Advice

Before the 1940's, the Government Agricultural Advisory Service was mainly concerned with giving technical advice to farmers and vegetable growers. During the early 1950's, farm economic extension work with individual farmers began to play a greater role (Vos, 1977). Also, starting from 1956, socio-economic advisory

work was organised under farmers' organisations with strong financial support from the public funds (Socio-economic advisory work is discussed in the next Sub-Section). By the 1980's, the emphasis in extension work had shifted away from helping the farmers to improve their farming techniques to giving them advice in their capacity as entrepreneurs (Lint, 1985). The technical advice became increasingly provided by various commercial organisations. Eventually the technical-economic advice of the DLV will also become provided on a commercial basis. Currently the DLV is functioning in regional teams that cover all economic and technical aspects of farm management such as production, building, mechanisation, storage, economic studies and management (ANDA, 1991). The teams are specialised according to the production profile of the region where they operate. An interviewee, who works for a regional team in the DLV, identified that issues of how to prevent pollution from agricultural production have become increasingly incorporated into advice during the last decade. As a result of the 1990-93 reorganisations the subject areas of the DLV have changed significantly. They are now limited only to production related technical-economic advice, whereas issues that are related to policy regulation such as environmental issues and animal welfare are mainly dealt with by the Regional Policy Office Advisers (see previous Section).

The Socio-Economic Advisory Work of the Farmers' Unions

The socio-economic work of the farmers' unions has been aimed at facilitating structural improvements in agriculture and the exodus of people from agriculture. It has been concerned with issues such as farm succession, law and legislation, social and economic issues related to family, farm development and finance.

In the Netherlands there are three groups of farmers' unions. The division reflects a long lasting religious division in the Dutch society. The farmers unions are either Protestant, Catholic or Neutral in their orientation and a network of each of them covers the whole country.

First, "rural social guidance" was set up in the late 1950's, with an objective to influence the attitudes of the farming community at large towards greater willingness to change. Later, in 1963, a Socio-Economic Extension Service was

established. Both forms of the socio-economic advice were provided by the farmers' unions with subsidies from the government. The task of the socio-economic extension work was to help individual families to make decisions concerning the short and long term possibilities for developments on the farm or discontinuation of farming in their specific situations (Draisma and Vriesen, 1970). The socio-economic advisory work was originally subsidised by the government at the rate of 90 per cent of the cost. In 1970, the "rural social guidance" and the socio-economic advisory service were integrated into the Socio-Economic Advisory Service. Over the 1980's, the government's share in financing the socio-economic advisory work gradually decreased from 90 per cent in 1970 to 50 per cent in 1991. The remaining costs are met by the members of the farmers' unions partly through membership fees and increasingly through direct charging for the services. The development in the number of socio-economic advisory workers is illustrated in Table 6.4.2.

Table 6.4.2. Number of Socio-Economic Advisory Workers at the Dutch Farmers' Unions

	Rural Social Guidance	Socio-economic advisers
1960	22	-
1963	40	31
1965	49	77
1967	60	152
1969	54	172
1972	-	190
1975	-	215
1990	-	216

Sources: Draisma and Vriesen (1970), ANDA (1991)

Advice from Private Commercial Organisations

In the case of the Netherlands it was possible to obtain information about private commercial advisory organisations by means of in-depth open interviews that were carried out during two short visits to the country in October 1991 and in September 1992. In addition an interview with an independent consultant was carried out over the telephone and the responses from two persons were obtained by sending a questionnaire. A total of eight responses were obtained. The range of organisations

surveyed in the Netherlands is indicated in Table 3.4 (in Section 3.4), the check-list for interviews can be found in Appendix A and two examples of questionnaires are presented in Appendix C. Information about various branches of private sector advisory activities, presented in this Sub-Section, is based on responses to the interviews and questionnaires unless otherwise indicated.

Private sector involvement in providing advisory services to farmers is currently estimated at a total of over 3000 experts of which 2000 are estimated as being employed by the supply and processing trade and industry (MANMFN, 1992). The remaining part consists of employees of private independent consultancy businesses (often called commercial extension bureaux in the Netherlands).

The respondents and interviewees identified that *the suppliers of farm inputs* started their advisory activities as follows: suppliers of fertilizers in 1930's, feed suppliers in 1950's and chemical suppliers in 1960's. The number of advisers originally increased due to the increasing volume of production and complexity of problems together with reduced profit margins of farming that lead to more questions being asked by farmers. The increase slowed down in the course of the 1980's and reversed as a result of the introduction of quotas on production and restrictions on pollution. The advice given by the input suppliers is mainly limited to the use of products they supply.

In the Netherlands much of the inputs are supplied by farmers' cooperatives. The cooperatives have been growing in size and control a large share of the market. For example, currently 54 per cent of the consumption of compound feed is supplied by the cooperatives. To obtain a more detailed insight, a senior manager of a cooperative feed supply business was interviewed. The cooperative was established in 1962 on the basis of three feed-mills and has grown through mergers (23) until 1990. The number of advisers in the cooperative first grew as the cooperative grew but has reduced in recent years following the reduction in the demand for compound feed (because of increased use of farm grown fodder) and increased levels of farmers' education. The number reduced from 30 in 1985 to 25 in 1990. The advisers in the cooperative have over time (1962-1990) become more specialised according to a branch of animal husbandry. Recently, computerised feed management systems have been introduced and therefore some feed suppliers are advising on such systems that are also related to whole farm feed management, but in general,there has been an agreement between the cooperative and the socio-

economic advisory service of the farmers' unions that the economic queries will be referred to the Unions. No direct charge was made for advisory services. Farmers received regular visits from the advisers on a fortnightly basis.

The respondents and interviewees identified the main employees of advisers within the group of *processing and marketing organisations* as being processors of milk, horticultural products (vegetables) and sugar-beet. These organisations have been employing advisers approximately since the 1950's in order to meet increased demands on the quality and increasing volume of production. There has been an increase in the number of advisers but it has been estimated to be slower than in the case of the supply industry and advice is very specifically product related.

In the case of a large dairy cooperative in the East of Holland a senior manager in technical services was interviewed. The number of advisers had increased since the mid-1950's until early 1980's, but over the last ten years the number of advisers had reduced from 35 to 23. The main reasons for the recent decline were identified as reduction in the number of milk producers, introduction of milk quotas and increased level of farmers' education. The subject areas of advice had changed very little over time, less attention being paid to issues of feeding and housing and more to the quality of milk and hygiene of milk production. No charge was made for advisory services as such, but a fixed annual fee was introduced in 1983 to cover half of the cost. This was done to distribute the cost of advice within the cooperative on a per farm basis rather than on the basis of the quantity of milk produced.

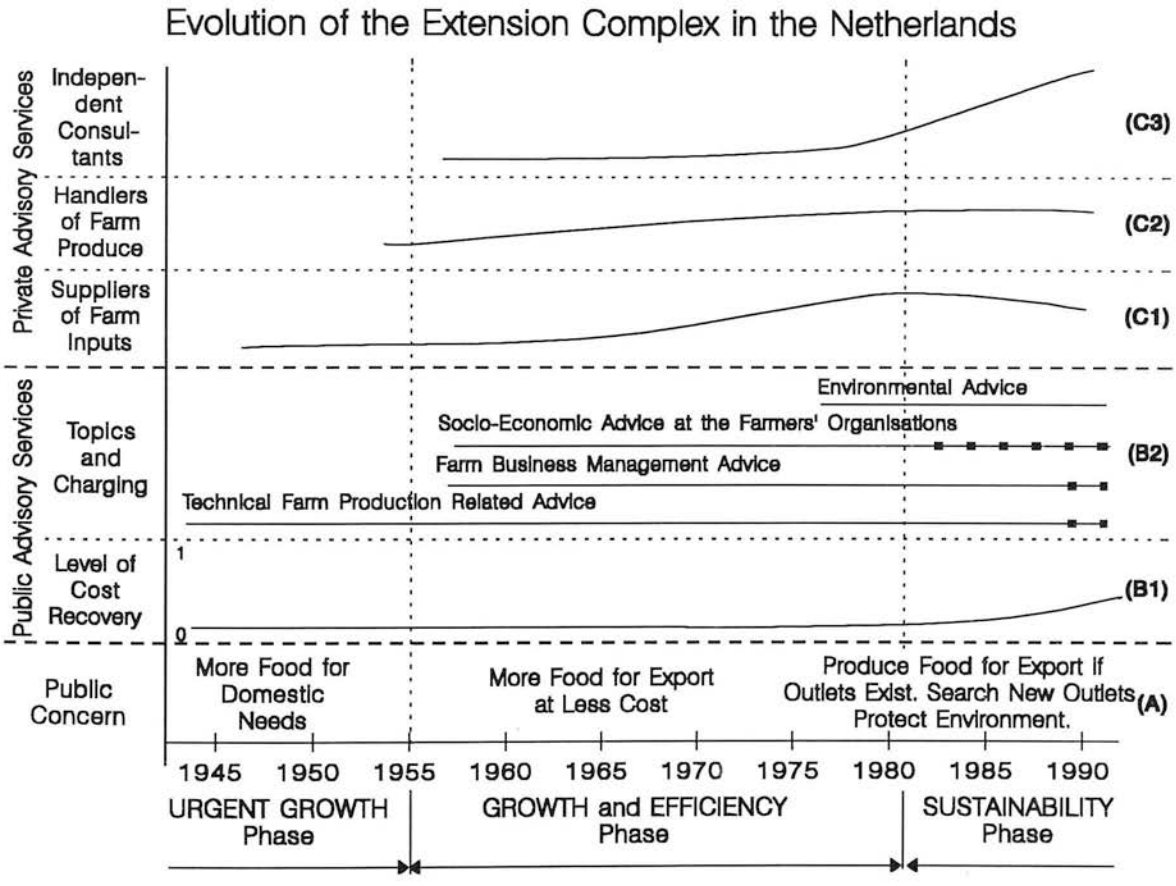
All respondents were also asked to identify developments in the group of *independent consultancy businesses*. The small independent consultancy businesses (or "independent extension bureaux" as they are referred to in literature (MANMFN, 1992) started to emerge in the 1950's. There was a steady growth in the size of this branch until the 1970's following which there was a rapid growth in the late 1970's and early 1980's. The growth was partly triggered by the government's decision to withdraw from the provision of advice to farmers on an individual basis and to concentrate on group activities (Lint, 1985) as well as by the growing demand for services. The respondents indicated that the topics of advice provided by independent consultants have changed over time. Issues like farm economics and analysis, computer applications, animal welfare and manure/pollution problems have been added to topics related to housing, feeding,

and animal health. The biggest involvement of the independent consultancy businesses has been noted in horticulture and glass-house production (Harrison, 1985).

Summary

The developments in the Extension Complex of the Netherlands are summarised in Figure 6.4.8 using the same format as for Figure 4.23 and adding to it the phases in the orientation of public interest towards agricultural production identified in Section 6.4.2.

Figure 6.4.8.



6.4.4. Validation

The changes in the interests of the Dutch society in relation to agriculture and consequently the objectives of agricultural policies have followed a sequence similar to that presented in the Conceptual Framework. As expressed in Section 6.4.2, the three phases of URGENT GROWTH (WW II - early 1950's), GROWTH and EFFICIENCY (late 1950's - early 1980's) and SUSTAINABILITY (mid-1980's - 1990's) can be clearly distinguished in the orientation of Dutch agricultural production after WW II.

For each phase the main characteristics and developments in the Dutch Extension Complex have been translated to the format of the Conceptual Framework and presented in Figure 6.4.9 next to the Framework to facilitate comparison. First, it will be outlined for each phase how the data from the Netherlands supports the Conceptual Framework and then the differences will be discussed.

The URGENT GROWTH Phase

Layers (B, C) - During the URGENT GROWTH phase, the Extension Complex was primarily represented by the government funded (B1) and administered agricultural advisory service that advised mainly on technical issues of agricultural production (B2). Some input supply organisations (fertilizers) (C1) started providing advice but did not yet have considerable impact. Other elements (C2, C3) of the Extension Complex started to develop during the later phases.

The GROWTH and EFFICIENCY Phase

Layer (B) - During the GROWTH and EFFICIENCY phase, the government advisory service continued to provide agricultural production related advice free of charge and issues of farm business management were included in topics of advice (B2). Also, socio-economic advice was made available (B2) through the farmers' organisations to facilitate improvements in farm structure with most of the funding (90 %) coming from the government. Thus, cost recovery from farmers was minimal and remained at this low level throughout the phase (B1).

Layer (C1) - The *input supply organisations* became increasingly involved in providing advice during this phase, especially at the beginning and in the middle of the phase when animal feed suppliers and suppliers of chemicals/fertilisers appointed advisers. Encouragement of expansion of agricultural production and export, given by government policies, increased the scope that input supply organisations had for providing advice to their customers. Towards the end of the phase the decline in the number of customers started to reduce this scope. The data available to this study do not allow judgement as to whether the advisory activities reached a peak. Therefore, a part of the symbol in C1 is shown with a dotted line and two options to indicate uncertainty.

Layer (C2) - During the GROWTH and EFFICIENCY phase the *organisations concerned with farm produce* also started to advise their suppliers. Various organisations in this group appointed advisers as the quality of farm output became increasingly important in achieving good results in processing and marketing of the produce.

Layer (C3) - Early in the phase, first small *independent consultants* and consultancy businesses started to emerge followed by steady growth in the middle of the phase. The scope for such organisations increased as services from government organisations did not expand in line with the demand for advice from farmers the business of whom had become bigger in size and more specialised and who had to operate in an increasingly complex environment.

The SUSTAINABILITY Phase

Layer (B) - In the course of the SUSTAINABILITY phase, *the public advisory service* has been through a series of reorganisations, gradually leading to privatisation and commercialisation of agricultural production related advisory work. Early in the phase, a policy was adopted to encourage the provision of technical advice to individual farmers by private sector advisory organisations and to concentrate the public advisory services on more general issues and group methods. Following the commercialisation later in the phase, production-related advisory work was institutionally separated from the specific activities on issues of pollution control.

Figure 6.4.9.

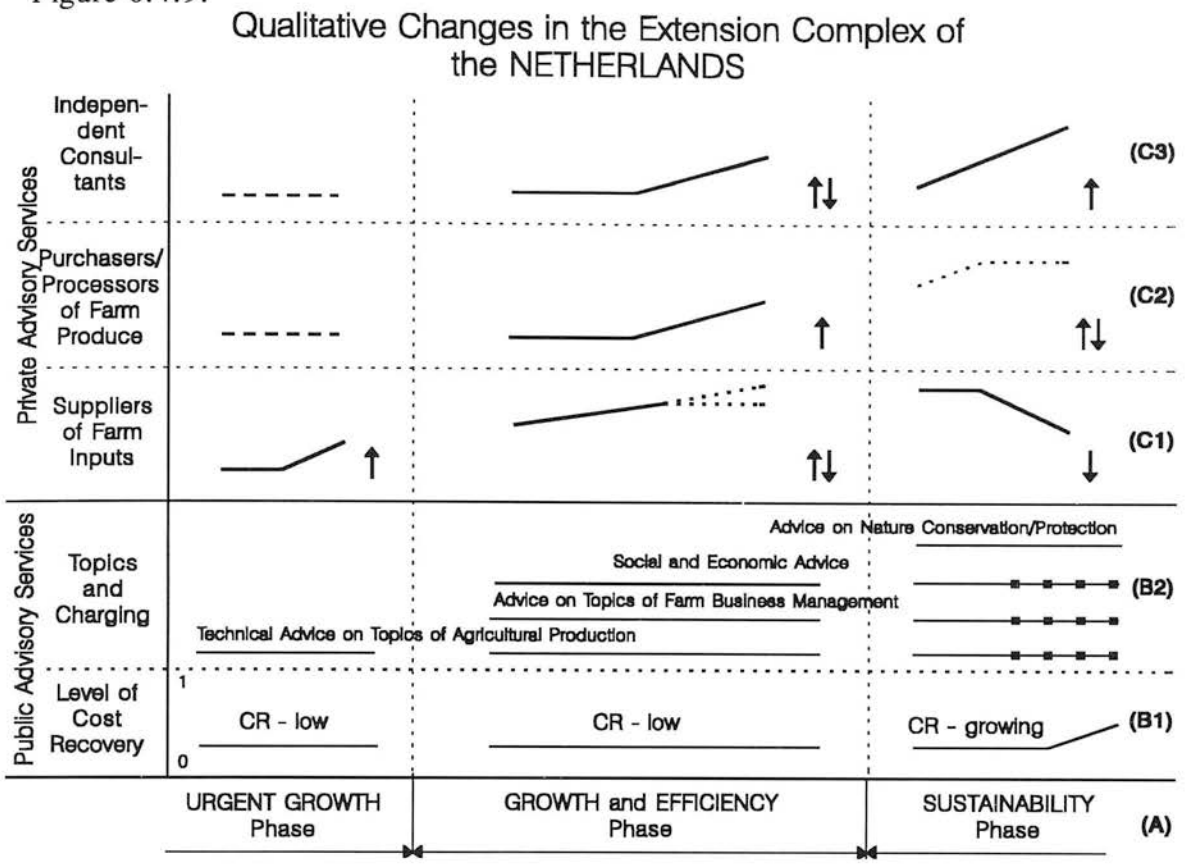
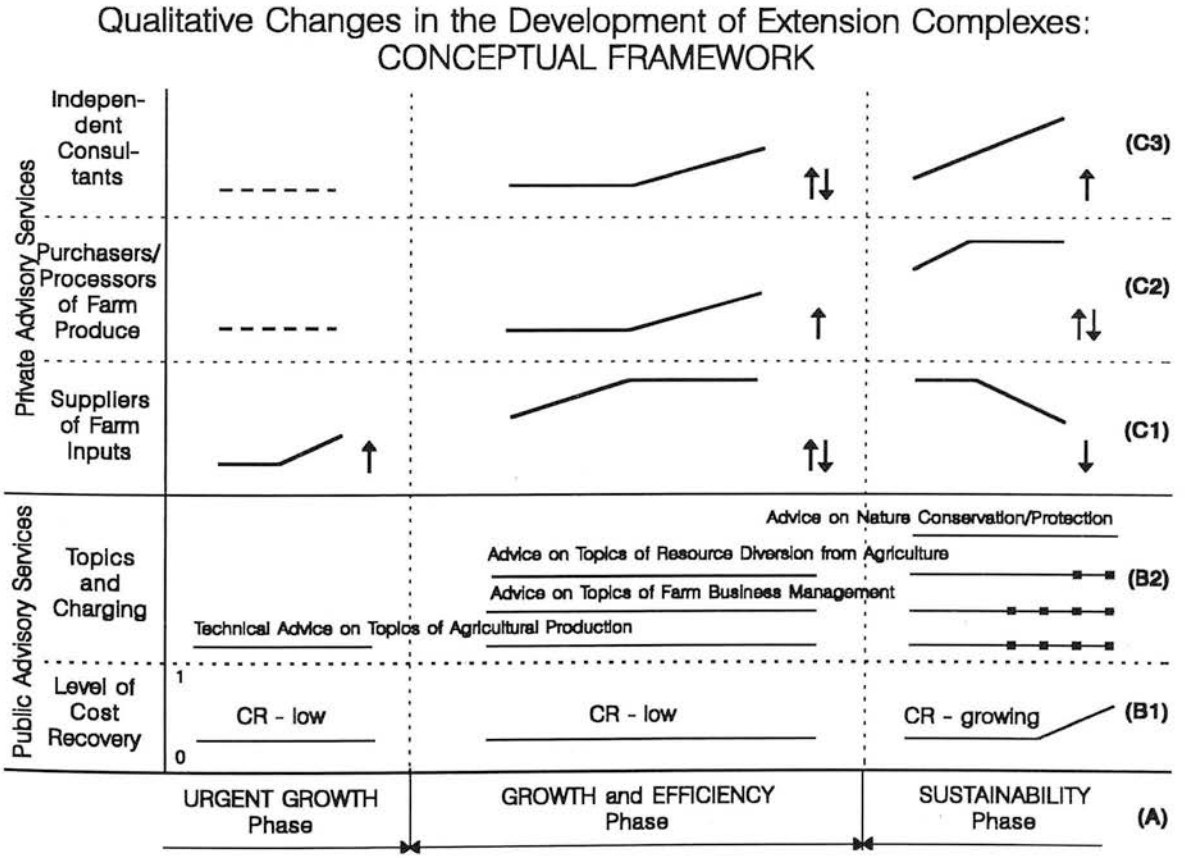


Figure 5.1. (repeated for ease of comparison)



Layer (C1) - The involvement of *input suppliers* in advisory work started to decline as the demand for inputs reduced. The reduction in the demand was caused by declining profit margins in agriculture, restrictions imposed on the volume of production of certain products, new measures regarding pollution and environment protection that restricted the use of chemicals and fertilizers and increasing use of farm-produced replacements for purchased inputs where possible.

Layer (C2) - In the case of *organisations concerned with processing and marketing* of farm produce, there were signs of decline in the number of advisers in branches (milk processors) where the volume of production became regulated by means of quotas. No detailed information was available about other branches and therefore the respective symbol (C2) in Figure 6.4.9 is shown with a dotted line to indicate uncertainty.

Layer (C3) - The number of *independent consultants and small consultancy businesses* increased significantly during the phase. This development is clearly supported first by the policy of government advisory services, at the beginning of the SUSTAINABILITY phase, to withdraw from providing technical advice to individual farmers and later by commercialisation of public advisory services.

Conclusions

In general,the data regarding the developments in the Netherlands is consistent with and supports the Conceptual Framework developed in Chapter 5.

There are some clear differences, between the developments in the Netherlands and the Conceptual Framework, that can be attributed to the exceptional demographic and environmental situation in the Netherlands and to the high importance that agriculture and food industry have for the Dutch economy.

High concentration of population and that of economic activities place intensive demand on land resources. Therefore, the issues of rural development, common to most European Countries (e.g. rural depopulation, farm diversification), are not felt as strongly in the Netherlands. This may explain why it has not been possible to identify any indication of special attention being paid to advice on farm

diversification by publicly financed advisory services. On the other hand, intensive agricultural production on a relatively small and densely populated territory has made agricultural pollution an issue of strong public concern somewhat earlier than elsewhere (B2).

Dutch agriculture's strong orientation to export and its important role in the nation's economy may be the reason why the validation data indicates that the involvement of input suppliers in providing advice continued to grow throughout the GROWTH and EFFICIENCY phase (C1). Towards the end of the phase, this development was encouraged by the policy of shifting the provision of technical advice to individual farmers from public advisory services to private sector organisations.

6.5. Conclusions with regard to Validation

A general conclusion from Chapter 6 is that the dynamics of the changes in the three countries have, in general, been consistent with the Framework, i.e. the changes in the Extension Complexes have in different phases of policy orientation occurred in the same direction as described in the Conceptual Framework. Therefore, it is concluded that the three case studies have supported the Conceptual Framework and thus increased the confidence in the validity of the Framework in the North-Western European context.

A number of specific clarifications follow from the validation case studies with regard to the Framework:

1. The sequence in which the phases occur in different countries may have an effect on the level of activities in the different layers of the Framework: the level of advisory activities in a layer of the Framework may vary depending on the outcome of developments during a previous phase. However, the way in which the orientation of policies, during a particular phase, has affected different groups of elements in the Extension Complex, has clearly validated the Framework.

2. The three validation studies have shown that differences in the institutional arrangements for publicly funded advisory services may influence the need/scope

for the involvement of other types of organisations in providing advice. For example, in Denmark, it has been suggested that cooperation between the publicly supported advisory services of the farmers' organisations, on the one hand, and the cooperative input supply and processing organisations, on the other, have reduced the need for the latter organisations' involvement in providing advice directly to farmers.

3. Redefinition of the role and financing of publicly funded advisory services makes it possible to influence the scope for the provision of advice by other types of organisations, e.g. the decision taken in the Netherlands to encourage private advisory services in providing advice to individual farmers and confine the public services to group methods and more general issues;

4. The different nation-specific circumstances in the development of policy orientation and in the physical, economic and cultural background in all three validation studies emphasise the need for a thorough investigation of the existing circumstances and their origins before any implications can be sought from the Conceptual Framework for a particular situation.

7. IMPLICATIONS FOR THE DEVELOPMENT OF THE EXTENSION COMPLEX IN ESTONIA

7.1. Introduction

Having checked on the Conceptual Framework, in this Chapter of the thesis attention will be concentrated on identifying implications from the Conceptual Framework for the possible development of the Extension Complex in Estonia.

This will be done by first giving a brief review of historical developments in Estonia in order to establish the origins of the current position of agriculture, agricultural policy and the Extension Complex. Then, the current situation will be analysed and finally the implications from the Conceptual Framework for the development of the Extension Complex will be identified.

It is important to note, that during this century, the process of evolution in Estonia has been several times interrupted by rapid societal changes*. The evolution in agriculture and related areas in Estonia, therefore, will have to be viewed in the light of several periods where different economic and farming systems have prevailed:

1918 to 1940 - the first period of independence with market oriented production and family farming as a dominant farming system;

1945 to 1989 - period of Soviet rule and planned economy which brought along mass collectivisation resulting in large scale farming oriented to achieving the targets given by the central planning authorities;

1989 to date - re-establishment of independence, privatisation and introduction of economic reforms that for agriculture have resulted in structural change, establishment of multiple enterprise structures and reorientation of production to market requirements.

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* 1914 to 1920 - The First World War, followed by the War of Independence securing the Republic of Estonia declared in February 1918.

1940 to 1945 - Communist Revolution in Estonia which resulted in Estonia becoming a part of the Soviet Union. The Second World War.

1989 to date - Re-Establishment of Independence, period of rapid reforms.

7.2. Physical Background

In January 1993, the total area of Estonia was 4,518 thousand hectares of which 32.2 per cent was agricultural land, 44.7 per cent was under forests, 6.2 per cent covered with water and 16.9 per cent was used for other purposes. Of the agricultural land 78.5 per cent was arable and the rest under natural pastures (Vanatoa, 1993). Climate in Estonia is moderate and varies between the locations being influenced by the Baltic sea. The growing season lasts typically from late April until late October. From the agricultural perspective, the climatic and natural conditions are similar to those in Southern Finland, Sweden and Norway (*Eesti Vabariigi Põllumajandusministeerium, 1993)*. In 1992, the population density was 34 inhabitants per square kilometre.

7.3. Historical Development

7.3.1. Agriculture and the Nation During the First period of Independence (1918-1940)

Before WW I, Estonian agriculture was oriented to the needs of the Russian empire of which she was a part. After the establishment of independence (in 1918) the Russian markets had been literally closed for Estonian agricultural products owing to the fact that Soviet Russian foreign economic policy was aimed at isolating domestic producers from foreign competition. Therefore, the Estonian economy as a whole and agriculture in particular had to change their orientation to other markets (League of Nations, 1927).

In 1918, 58 per cent of the territory was owned by large estates with an average size of 2113 hectares. Approximately 30 per cent of this area was leased to smallholders. Peasants owned 51,640 farms with an average size of 31.4 hectares. Land reform was carried out starting from 1919. Most of the large estates were nationalised and 56,300 new farms were created by 1936. Also the existing owner occupied and leased farms increased in size (Pullerits, 1937). The reform was very important in creating the basis for prosperity in the society as the country was

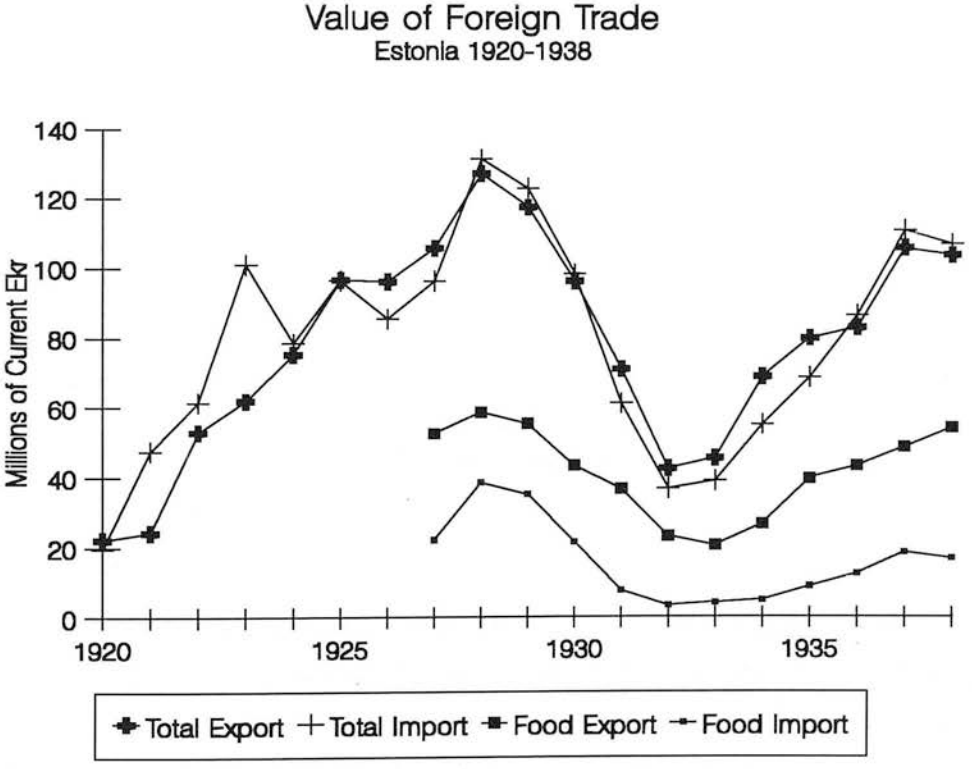
mostly agricultural. By 1929, there were 133.4 thousand farms in Estonia. The size distribution of these farms is illustrated in Table 7.1.

Table 7.1. Distribution Estonian Farms by Size in 1929

Size of Farms	Number of Farms	% of Farms in Size Group	Area in Size Group ha	% of Total Area
1 to 5 ha	23500	17.6	91900	2.9
5 to 10 ha	21600	16.2	197400	6.4
10 to 20 ha	35000	26.2	602500	19.6
20 to 30 ha	24200	18.2	670000	21.7
30 to 50 ha	22200	16.6	960400	31.1
50 to 100 ha	6400	4.8	456000	14.6
Over 100 ha	500	0.4	115600	3.7
TOTAL	133400	100.0	3093800	100.0

Source: Eesti Pank (1938)

Figure 7.1.



Source: Raud (1938), Eesti Pank (1938)

The markets that were available in Western and Central Europe favoured the products of animal origin that became the most important items of export for Estonia. The two largest export markets for Estonia's farm produce were Germany and the United Kingdom. As illustrated in Figures 7.1 and 7.2, exports of farm produce accounted for approximately half of the country's foreign exchange earnings and their value was significantly higher than that of imported farm produce. Figure 7.3 illustrates the extent to which Estonia's agriculture was oriented to export production during the period between 1930 and 1938. The share of exports in total marketed farm produce rose from a third to over a half. In Figure 7.4 the developments in the net products of agriculture and industry are compared to illustrate the significance of agriculture to Estonian Economy during the first period of independence.

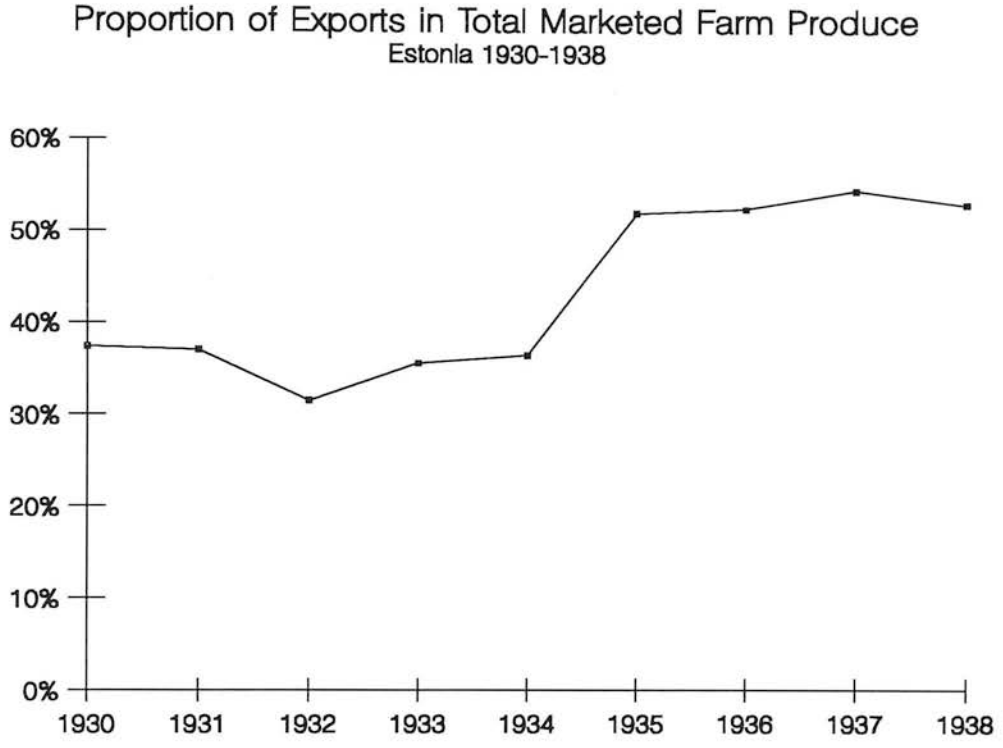
Figure 7.2.

Source: Eesti Pank (1938)

The main source of export produce was dairy farming (butter and cheese). Exports of bacon and eggs also increased on the importance over the period. During the first years of independence grain had to be imported for domestic consumption, but as production increased grain became available for export in addition to other arable products, mainly seed potatoes and flax (Tupits, 1938). Exports of farm produce

were organised through commodity specific export organisations that were able to establish themselves strongly on foreign markets. These organisations also exercised quality control over exported produce (Pullerits, 1937).

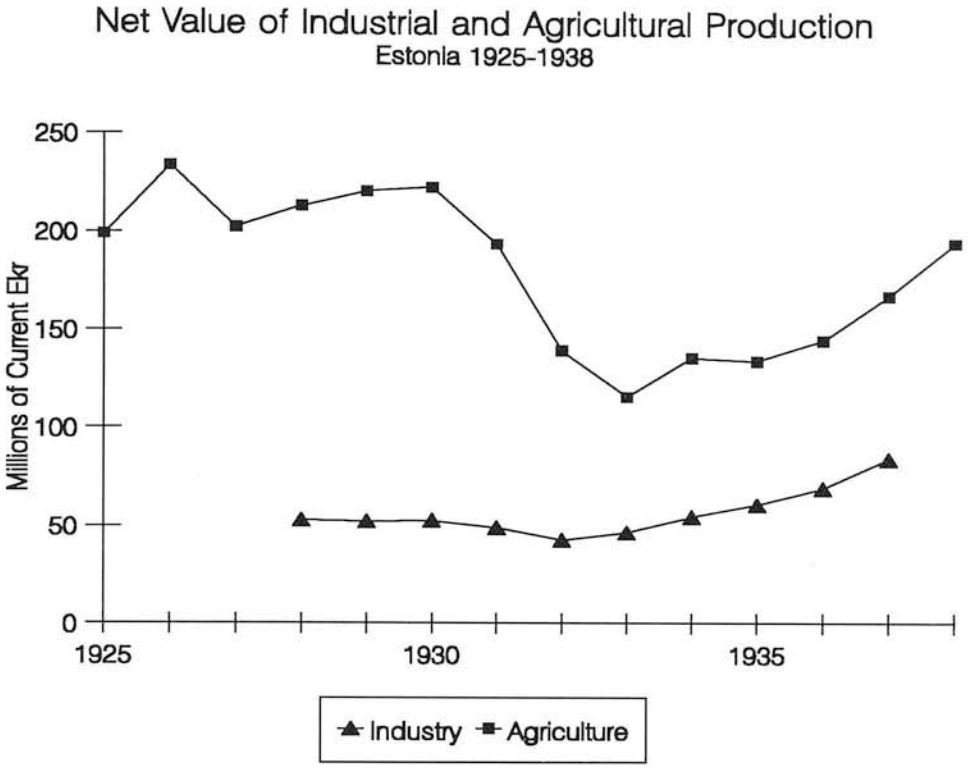
Figure 7.3.



Source: Compiled from data in Eesti Pank (1938) and Tupits (1938)

Between the two World Wars, the Estonian government pursued an active agricultural policy. First the land reform was carried out that created a strong community of independent farmers. Following the agrarian reform, agricultural development was impeded by lack of credit resources. To provide some relief the government provided significant credit from the state budget (The League of Nations, 1927). Gradually the supply of land, immediately fit for cultivation, became scarce. In 1929, the legal basis was created for settlement and land reclamation work (Pullerits, 1937) and work was commenced on the improvement of moors. Settlers had to be of good character, trained agriculturists and in possession of necessary capital. The government provided the settlers cheap credits and expert advice in addition to government funded improvement work. Land improvement for existing farms was also subsidised from 25 to 100 per cent.

Figure 7.4.



Source: Eesti Pank (1934) and (1938)

The producers and the government paid much attention to attaining a good reputation for Estonian farm produce. The government imposed strict quality control over exported products as early as in 1923 that were modified over time. Only the best quality produce was allowed to be exported. The quality was checked in various government laboratories. The products that were analysed or supervised and graded included butter, cheese, eggs, live animals, meat and meat products, seed potatoes and potatoes for consumption, flax, linseed, fish, fruit and vegetables (Pullerits, 1937).

During the depression of the 1930's the government introduced guaranteed minimum prices for the most important export item - butter. The prices were adjusted seasonally to reduce variations in supply. Later, guaranteed prices were also introduced for eggs and premiums were paid for bacon. In 1934, legislation was passed that allowed the relief of farm indebtedness through the restructuring of loans (*Eesti Pank, 1935*). After the depression, policy measures concentrated on intensifying and extensifying production. Clearing of virgin lands was facilitated by the establishment of tractor stations and introduction of premiums for tilling as well as by the promotion of phosphate fertilizers of Estonian origin. Attention was turned

also to improving the breeding of production animals. Cattle inspection societies and control stations were established in an increasing scale. In flax growing, horticulture and chicory production support was given in the form of expert advice and the development of a processing industry.

The system of fixed prices and premiums established during the depression was maintained to promote expansion in agricultural production (*Eesti Pank*, 1937) and to increase the competitive power of those branches that were capable of development. Most attention was paid to animal produce (*Eesti Pank, 19*38). The Government Grain Monopoly also purchased grain that could not be marketed privately into the State Reserve. *Eesti Pank* (1939) indicates that enquiries and research were started into a number of questions in connection with reducing agricultural production costs. A research committee was established that had a mandate to look into the possibilities for rationalisation of farming.

7.3.2. Agricultural Advisory work before WW II

Agricultural advisory work can be considered to have started in Estonia at the end of the eighteenth century with the establishment of the *Keiserlik Liivimaa Ökonoomika Selts* (Royal Society of Economics of Liivimaa). The Society's activities covered Southern Estonia and Northern Latvia. For Northern Estonia another society was established somewhat later. These organisations aimed primarily at improving agricultural practices in large estates (Kint, 1940).

In the second half of the nineteenth century as organisations of Estonian peasant farmers were established, the Farmers Associations appointed the first full-time agricultural advisers during the first decade of this century. These advisers worked as travelling instructors and were financed jointly by the farmers' organisations and the state. To obtain support from the government for employing an instructor the farmers' organisations had to apply for it and they had to be able to finance at least half the cost. As the organisations' resources were limited it was difficult to increase the number of instructors. By 1911, there were three instructors working in Northern Estonia and seven in Southern Estonia (Ratt, 1985).

After the end of hostilities of WW I and the War of Independence, the advisory work continued to be carried out by travelling instructors who were employed by two Central Associations of Farmers (Northern and Southern Estonia) and some county governments. In addition, various specialised organisations were established to promote and advise on particular fields of agricultural activities (Estonian Association for Improvement of Crop Varieties and Seed Growing, Estonian Associations of growers of various cattle breeds, Estonian Association of Drainage etc). The budget of the Ministry of Agriculture for 1920 contained small grants in support to most of the general and specialised organisations of farmers for the employment of advisers (Allmann, 1928). In 1922, the Association of State Tenants and New-Settlers was established that was also given financial support from the government for employing advisers. By 1928, there were 380 advisory workers (including 204 milk recording assistants) employed in these various organisations. The state support to them amounted to 27 million Estonian Marks. The budget for 1928/29 foresaw 35 million marks in support to 426 advisers (including 240 assistants) (Allmann, 1928).

During the period between the establishment of the independence and the depression in the 1930's, the general advisory work was carried out under two farmers' organisations that were political rivals (Allmann, 1928 and Liideman, 1930). The Northern Estonian and Southern Estonian associations of farmers had created a Central Association of Farmers in 1922 which was in many aspects in opposition to the Association of State Tenants and New-Settlers. The Parliament considered it inappropriate that political organisations receive financial support from public funds. In 1922, the Parliament made a request to the Ministry of Agriculture to support only politically neutral organisations. Efforts were made to create a central organisation that would oversee and coordinate the activities of various farmers' organisations and which would also be responsible for advisory work, but with little success. Finally, in 1928, an agreement was reached and the Bureau of Agronomists was created in order to reorganise advisory work. The arrangement of travelling instructors was replaced with a system where advisers were allocated to a region.

In 1929, an act was passed on Organisation of Advisory Work for Farming (Ratt, 1985) that reorganised the Bureau of Agronomists into the Farm Advisory Bureau. The advisory network of the Bureau consisted of 77 "agronomic districts" each with one agronomist-adviser per an average of 2000 farms with more than one hectare of land. When the Chamber of Agriculture was created in 1932, the Bureau was made

the responsibility of the Chamber and reorganised slightly. The number and distribution of advisers in the advisory service of the Chamber of Agriculture in 1937 is presented in Table 7.2. By 1937, the service had been reorganised once more (in 1935). As can be seen from Table 7.2, the advisory service had a two tier system with local general advisers and a number of specialist advisers in the centre. In addition, the Chamber of Agriculture employed advisers who were located at specialised agricultural organisations.

Muuga (1938) has identified a major change in the subjects of advisory activities in the course of the first period of Estonian independence. He indicated that during the first decade of independence, the emphasis in advisory work was on increasing the production of agricultural products, especially products of animal origin. The change that occurred as a result of the depression of the 1930's, required attention to be concentrated on the profitability of production and analysis of markets. Thus, more importance was given in advisory work to issues such as reduction of production costs, improvement of product quality, explanation of market requirements and organisation of marketing as well as giving moral support to farmers in a most difficult period of the crisis.

Table 7.2. Number of Advisers at the Chamber of Agriculture in 1937

In the Centre	
Director	1
Secretary-Adviser	1
Typist	1
Subject Advisers on:	
Farmstead/Homestead Care	1
Flax Growing	1
Rural Youth Work	2
Animal Husbandry	1
Peat Use	1
Technical Subjects	3
Trainee	
In Districts	
General Advisers	72
Horticultural Advisers	15
Herd Recording Advisers	3
Total at the Chamber of Agriculture	102
At Specialised Organisations	
Estonian Association of Dutch-Fresian Cattle Growers	4
Estonian Association of Estonian Cattle Growers	3
Association of Breeders of Estonian Red Cattle	4
Central Association of Milk Cooperatives	8
Association of Milk Recording Societies	2
Association of Ardenn Horse Breeders	1
Association of Breeders of Estonian Horses	1
Association of Breeders of Tori Horses	1
Estonian Association of Pig Growers	7
Estonian Association of Poultry Growers	6
Estonian Association of Sheep Growers	2
Estonian Association of Fur Animal Growers	1
Association of Potato Growers	2
Association of Pasture Development	2
Central Association of Horticulture and Bee-Keeping	1
Association of Swamp Improvement	1
Total at specialist organisations	46

Source: Yearbook of the Chamber of Agriculture of Estonia. V (1937)

7.3.3. Agricultural Production since WW II

Agricultural production and policy making in Estonia after WW II was characterised by a high degree of control from outwith Estonia by the central government of the USSR and the Communist Party of the USSR. This Section will concentrate on giving a brief review of the main developments in parameters characterising the volume of agricultural production and farm structure in order to provide an insight into the historical background of the current situation in Estonian agriculture. No attention will be paid to the reasons for particular policies during the Soviet rule as it would be outside the scope of this study.

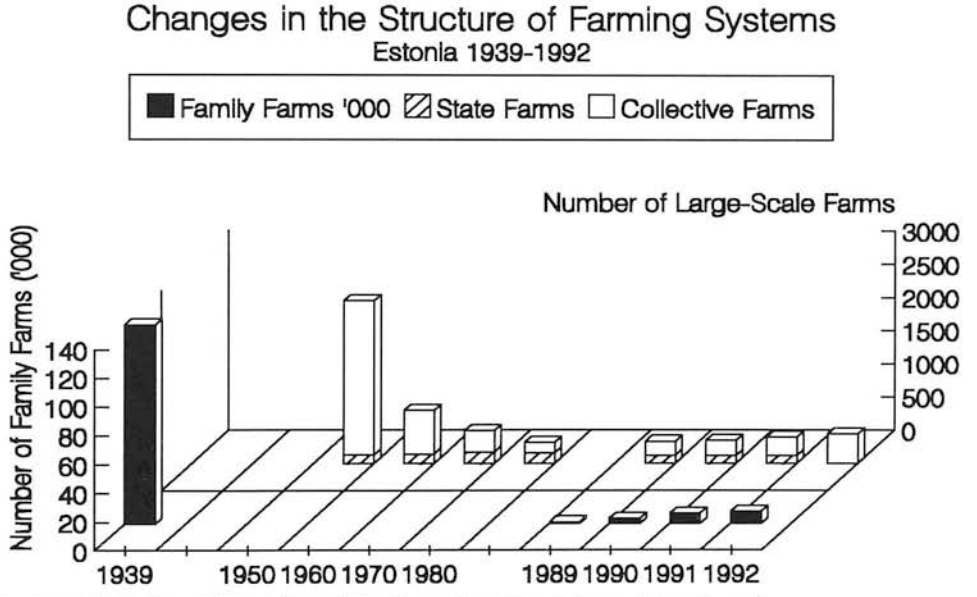
For a short period, from immediately after WW II until 1948, the family farms remained the main form of production. In 1940, all land had been nationalised. Hard economic conditions were forced on the private farms. Parts of larger farms of over 30 hectares were redistributed to new applicants. The farmers were obliged to sell between 6 to 30 per cent of various farm products to the state at low prices determined by the government. These sales accounted for only four to six per cent of farm income. In addition the family farms were taxed heavily (Tamm, 1993).

In 1947, the collectivization was started with the organisation of the first five collective farms. By the spring of 1948 there were 58 collective farms and by March 1949 the numbers had increased to 641. During the collectivisation, the collective farms had no obligatory payments to make, whilst the taxes for family farms were increased considerably (Pajo et al, 1992). On the 25th of March 1949 the authorities carried out a mass deportation of Estonian people. The estimates of the number of people deported vary between over 20,000 (Pajo et al, 1992) and 80,000 (Parming, 1978) due to inadequate records (according to Parming (1978) the total population of Estonia in 1950 was 1,096,700 and up to 13 percent of the rural population was deported). Different authors agree that the majority of the people deported in March 1949 were rural families from larger farms who had formed the most progressive part of farmers. Following the deportation the number of independent family farms decreased rapidly and this system of farming practically ceased to exist in two years.

Figure 7.5 illustrates the developments in the structure of farms and farming systems in Estonia between 1950 and 1993. Following the completion of collectivisation, the tax advantages for collective farms were abolished and their

produce had to be sold to the government at very low prices (Tamm, 1993). The Soviet policy was to pump most of the resources into reconstruction and expansion of industry (Järvesoo, 1978). This lead to decline in agricultural production and impoverishment of agricultural producers. The original small collective farms (20 to 50 families in each) were merged during the 1960's by attaching poorer farms to the more well off units. The poorest of them were turned into state farms that became financed form the state budget. The mergers continued until the 1980's and resulted in giant farms. The farm size peaked in the middle of the 1980's. By 1985, there were 150 collective farms and 152 state farms with an average of 4500 hectares of agricultural land each. In addition, each farm had woodland and other non-agricultural land. Total land area of some farms reached over 10,000 hectares.

Figure 7.5.



Collective Farms			2313	648	317	151		200	221	274	436
State Farms			127	144	172	158		126	117	120	
Family Farms '000	139		0	0	0	0		1.1	3.7	7.3	8.6

Sources: Järvesoo (1978), Ministry of Agriculture of Estonia (1992)
Eesti Vabariigi Põllumajandusministeerium (1993)
Data for Collective Farms for 1992 includes State Farms

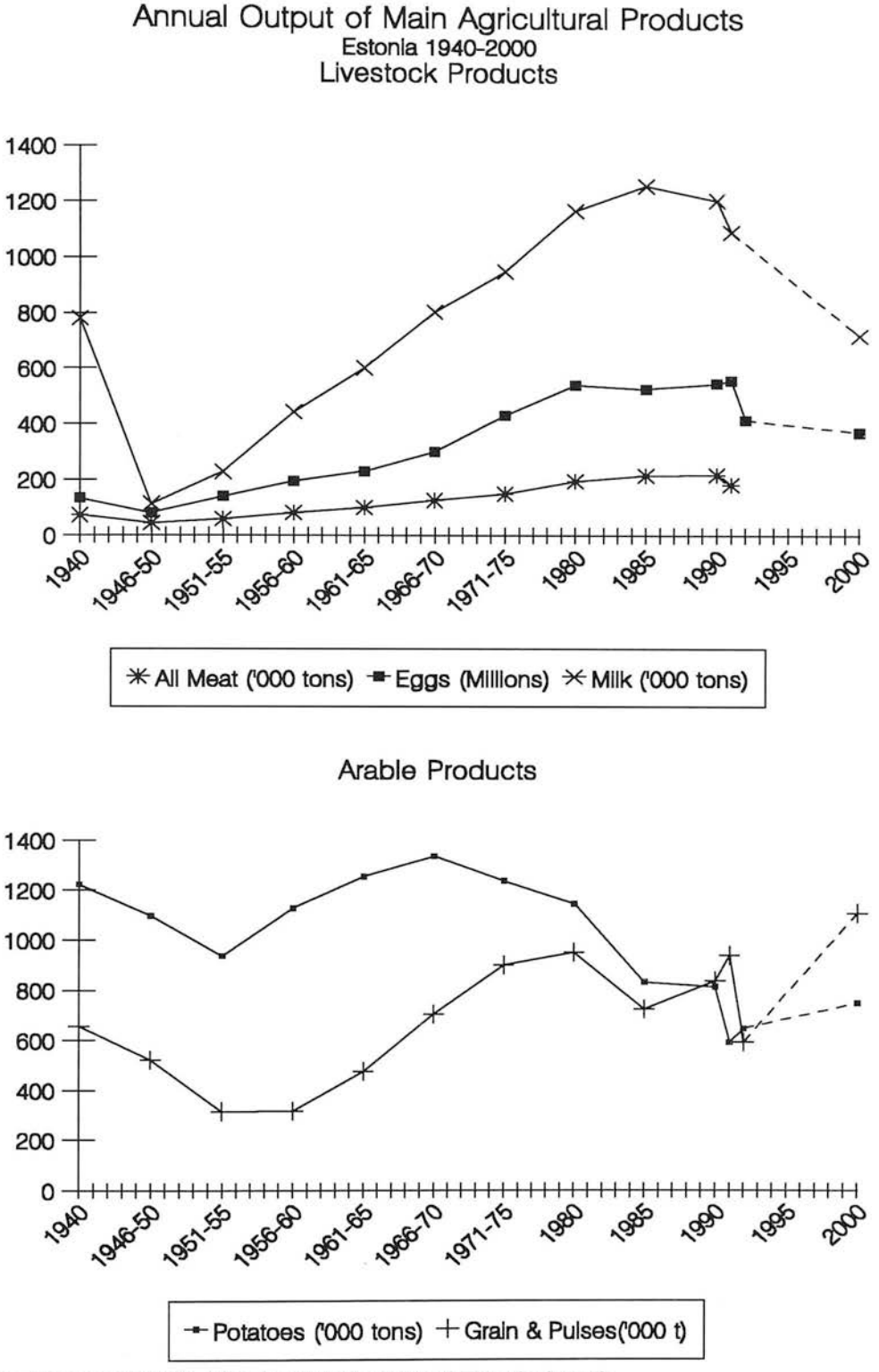
The pre-Soviet level of arable production was restored by 1948, but it took until the early 1960's to restore livestock production. The collectivisation brought along a decline in agricultural production that lasted until the early 1960's (Järvesoo, 1978). A large proportion of food supplies in the 1950's and 1960's was produced in the households of the members of collective farms. The members were allowed to have a small plot of 0.6 ha, and also a very small number of livestock per family.

Although the plots totalled only 3 per cent of arable land in 1960, they produced a significant proportion of total Estonian food supplies - over 40 per cent of potatoes and vegetables and kept 41 per cent of milk cows and 28 per cent of pigs. By 1974 the proportion had declined but was still considerable: 36, 22 and 8 respectively (Järvesoo, 1978).

Since the middle of the 1960's, the economic conditions for farming were improved as the government increased procurement prices and started investing into agriculture. Estonia had one of the highest conversion rates of feed into livestock products in the Soviet Union (Tamm, 1993). Therefore, the Soviet economic system considered it necessary to import large quantities of livestock feed to Estonia and to develop Estonia's livestock production according to the needs of the USSR. Large livestock units were designed and built throughout the 1970's and 1980's, e.g. ten dairy units, each with 800 to 1000 cows were designed in the early 1970's (Järvesoo, 1978; Pajo et al, 1992; Tamm, 1993). Arable production in Estonia was planned and developed with the objective of providing as much feed for livestock as possible. The Soviet policy mechanisms encouraged simple expansion of agricultural production without paying much attention to the cost of such growth. The true cost of agricultural production to the economy could not be taken into account as prices were artificially low and did not reflect the real cost.

Figure 7.6 illustrates the development in the volume of production of main agricultural products in Estonia. Data are not available about the level of self-sufficiency in food for Estonia during the Soviet era. To provide a proxy for self-sufficiency, some statistics of per head consumption and per head production are presented in Table 7.3. Although the per head production and consumption data do not reflect the situation in self-sufficiency precisely, they nevertheless indicate clearly that Estonia produced more food than the requirements of its own population. It has been estimated that approximately 40 to 50 per cent of milk and meat production was exported to the rest of the USSR in the 1980's, but this share declined as the decline of cheap imported grain supplies towards the end of Soviet rule lead to reduction in output (Tamm, 1993).

Figure 7.6.



Sources: Järvesoo (1978), Ministry of Agriculture of Estonia (1992)
Eesti Vabariigi Põllumajandusministeerium (1993)
Data for 2000 indicates preliminary Government Objectives as of 1993

It is important to note, that the large scale farms performed a number non-agricultural and agriculture related functions in rural areas. In fact, most of the rural

infrastructure was built and managed by collective and state farms. Tamm (1993) has compiled a comprehensive list of non-agricultural functions performed by the large-scale farms. These functions include services such as stationary and mobile machinery repairs and maintenance, storage facilities for parts, farm inputs (fertilizers, pesticides, fuel etc) and construction materials, team of supply agents for the above inputs, construction services, transport services, maintenance of drainage systems and roads, veterinary service, plant protection service, grain drying and storage, potato storage and grading, fire brigade, public services (schools, nurseries, sports facilities, shops, hairdressers, medical service, post office, telephone exchange etc). Most of these services were provided from the resources of the farm or heavily subsidised by the farm and managed under the control of the farm.

Table 7.3. Comparison of per head production and per head consumption of agricultural produce in Estonia.

Product	1970		1985		1990	
	Prod.	Cons.	Prod.	Cons.	Prod.	Cons.
1. Milk (kg)	751	420	820	489	763	487
2. Meat and Products (kg)	136	73	178	89	165	84
3. Fish and Fish Products (kg)	n.a.*	29	412	24	370	24
4. Eggs (pcs)	263	241	344	296	346	289
5. Potatoes (kg)	1036	151	542	113	391	103
6. Vegetables (kg)	101	80	82	69	66	64
7. Fruit and Berries (kg)	31	35	25	44	14	36

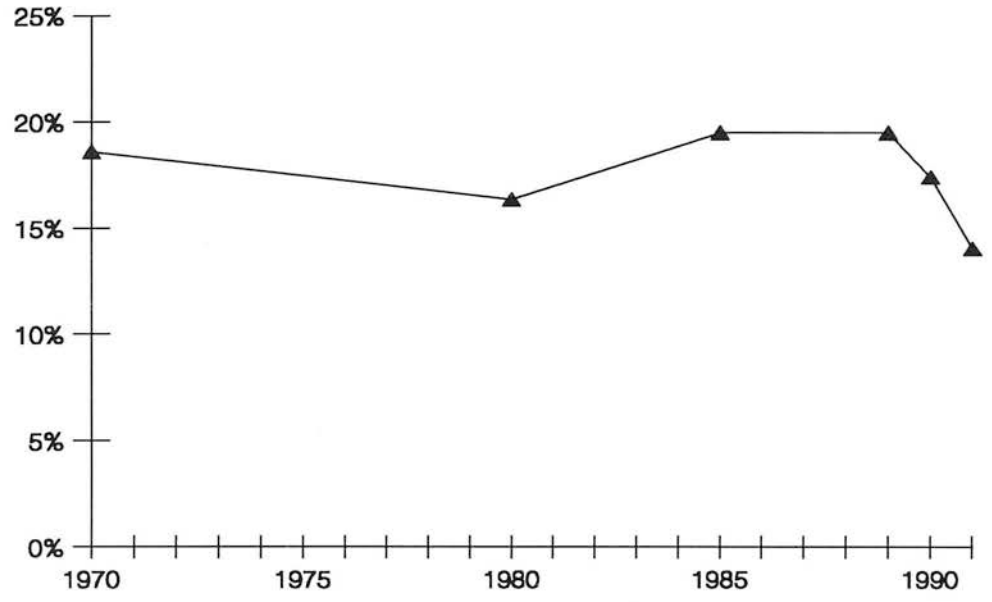
Sources: Pajo et al (1992), Ministry of Agriculture of Estonia (1992).
* n.a. - data not available

Figures 7.7 and 7.8 illustrate the role that agriculture has had in the Estonian economy and society. The share of agriculture in Gross Domestic Product, where GDP is calculated according to the Soviet methodology that is not comparable to the methodology used in the West, has remained relatively stable, but high (at almost 20 per cent) during the last two decades of Soviet rule. The share has declined significantly since the re-establishment of independent statehood as a result of decline in agricultural production. Also, the proportion of rural population in the total has declined from over 50 per cent immediately after WW II to below 30 per

cent in the 1980's and has remained stable for the last decade. Agriculture's share in total employment has also declined and was 12.7 per cent in 1990.

Figure 7.7.

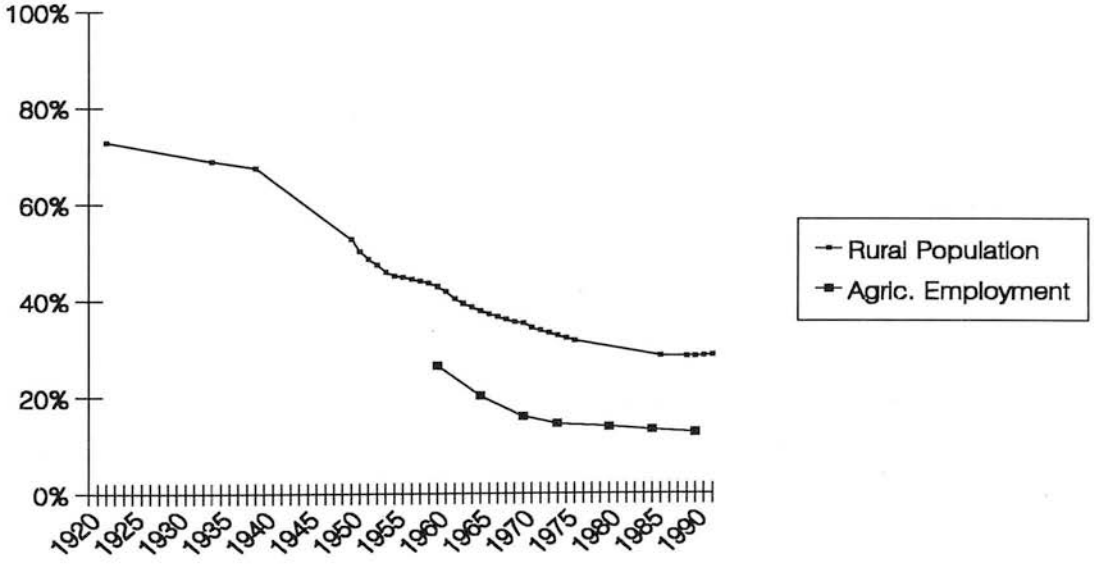
Share of Agriculture in Gross Domestic Product
Estonia 1970-1992



Source: Ministry of Agriculture of Estonia (1992)

Figure 7.8.

Shares of Rural Population and Agricultural Employment in Total
Estonia 1922-1992



Sources for data on population: Parming (1978), Ministry of Agriculture of Estonia (1992)
Sources for data on employment: Järvesoo (1978), National Statistics Board of Estonia (1992)

7.3.4. Provision of Information and Advice during Soviet Rule

This Section comprises a summary view and an analysis that is based on the author's involvement in a multi-disciplinary team at the Institute of Rural Development of Estonia (IRDE), formerly Higher School of Agrarian Management*, between 1987 and 1992. The work has involved a large number (approximately 50) of participatory workshops with middle- and top-level managers of large farms. Each workshop lasted three days or more and they were aimed at elaborating development strategies for particular farms and sometimes at more general policy issues.

During the Soviet rule no general national extension organisation existed in Estonia. Many different organisations carried out work that could be viewed as extension work, which will be discussed later in this Section. First, an outline of a management team of a typical large scale farm will be presented.

The large scale farms of the 1970's and 1980's employed usually between 20 to 50 graduate specialists. Each of them specialised in a narrow technical aspect and was responsible for the state of respective affairs on the farm. A typical list of job titles in a large farm would have included specialists in arable faming (grain agronomist, grassland agronomist, potato growing agronomist etc.), veterinarians, specialists in animal nutrition ("zootechnicians"), engineers responsible for mobile machinery (tractors, harvesters etc.), engineers responsible for stationary machinery (dairy equipment, grain drying equipment etc.), an engineer responsible for drainage and land improvement, an engineer responsible for innovations, a lawyer, an accountant-economist and a book-keeper/record-keeper. This team was managed by the chairman of a collective farm or, in the case of a state farm, by the director.

Each of the specialists had a number of subordinates who, in turn, had their subordinates. The latter were called workers or skilled workers (they had typically finished a vocational training course) and the subordinates of specialists (typically also with specialist education but of college level) were considered as middle level managers. If the total arable area of Estonia was divided by the number of

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* The IRDE is a government owned in-service training and consultancy/research organisation, currently a part of the Agricultural University of Estonia. The predecessor of the IRDE was established in 1986 with a mandate to provide information and continous training for top-level managers of large-scale farms.

agricultural workers that had received formal education to a university or college degree level, there would have been 41 hectares of arable land per highly educated labourer in the middle of the 1980's (Tamm, 1993).

Most of the work that could be viewed as extension work was carried out by various training centres as in-service training. Separate institutions trained different kinds of farm employees. The skilled workers and middle-level managers were trained in training centres that existed in each of the 15 administrative regions of Estonia. Graduate specialists were obliged to regularly attend in-service training courses in their own field at the Agricultural University. Top managers were also required to take in-service training courses every five years that lasted two to three months. These courses were held either at Universities or Management Institutes. Participation in the in-service training courses was encouraged by bonuses of up to 30 per cent of salary.

Information about new equipment, technologies and research findings was distributed by means of special publications from the Ministry of Agriculture, the Research Institutes or relevant departments of the Agricultural University. There were two main agricultural research institutes in Estonia - one concentrated on issues of arable farming and the other on animal husbandry and veterinary science. Both research institutes had experimental stations and demonstration/experimental farms as did another institute that specialises in forestry.

As can be seen, a complex of research and training institutions existed that were involved in providing information and further education. On the whole, the efforts were scattered although each organisation tried their best. The persons, to whom new information and training was oriented, had little motivation to implement any innovations as their main task was to run production that became increasingly difficult as farm sizes grew and as external resources became shorter in supply. The participants of the above mentioned workshops often compared their work to fire fighting. Changes in production would have meant inconveniences for them and would have given little personal gain to the innovator. The managers had little freedom in making strategic decisions about the future of the farm as the central planning system often prescribed what to produce and the allocated production quotas were often inordinately high in comparison with available resources.

The organisations that supplied farm inputs (machinery, chemicals, livestock feed etc.) did not get involved in advising. In fact, due to the shortages of inputs it was not the suppliers who tried to sell and encourage the use of inputs, but the agricultural producers were continuously seeking extra supplies of inputs.

Similarly, as there was a continuous short supply of food products in the USSR, the processing organisations had little incentive to get involved in improving the quality of their products or their raw materials. The farms were encouraged to produce better quality milk through centrally determined prices that were higher for cleaner milk with higher fat content.

7.4. Current Situation

7.4.1. Agricultural Policy Since the Restoration of Independence

Since the restoration of independence over the period of 1989 to 1991, the Government has been preoccupied with reforms in all major aspects of life in Estonia. The reforms that are most directly concerned with agriculture include the Land Reform and the Property Reform in Agriculture. These two reforms aim at returning land and property to the former owners or their descendants and at establishing private ownership of agricultural enterprises.

The laws on Land Reform and Agricultural Property Reform were passed in October 1991 and March 1992 respectively. The two laws established the procedures for reorganisation of large-scale farms. The reorganisation of collective and state farms into new types of enterprises is currently in progress. The new enterprises are generally smaller in size and their business structure is typically either a partnership, limited company, cooperative or a sole trader (family farm).

According to the Minister of Agriculture (Leetsar, 1993) the reforms had started in most of the large-scale farms by the beginning of 1993 and about a hundred collective and state farms (out of the total of 360) had been reorganised into over 1300 new enterprises by the spring of 1993. The new enterprises include not only farming enterprises, but also servicing enterprises that have been established on the basis of the various units of former large-scale farms (about the units see also Sections 7.3.3 and 7.3.4).

The first family farms after the WW II were established in 1988. After the Act on Family (Peasant) Farms was passed in 1989 the number of family farms has increased to over 8500 as can be seen in Figure 7.5. In December 1992, the average size of a family farm was 25.6 hectares of which 11.1 hectares was arable land. In January 1993, the family farms made use of 8.5 per cent of total arable land (*Eesti Vabariigi Põllumajandusministeerium,* 1993).

Figures 7.6 and 7.7* indicate that there has been considerable decline in agricultural production and Agriculture's share in the economy since the beginning of the reforms in the 1990's. The decline is caused mainly by four factors:

(1) the collapse and unreliability of outlets in the former Soviet Union for which Estonian agriculture had produced;

(2) the irregularity of supplies of farm inputs from the same region;

(3) the changes in the structure of prices whereby the prices of imported inputs (fertilizers, fodder, pesticides, fuel etc.) increased up to several hundred times (to the world market level) and at the same time the prices for farm produce could not increase more than tens of times due to the low purchasing power of population;

(4) the temporary disintegrating influence of the radical reforms on production as the new production and administrative structures do not function yet and as the managers of the old structures, being insecure in their future, are not interested in making efforts to maintain production.

The difficulties of Estonian agricultural producers and food processing enterprises have been deepened by exports of agricultural produce to Estonia from other countries at subsidised prices (dumping).

So far, no clearly expressed long term agricultural production policy has been agreed as yet. Heated political discussion is going on about support to and protection of agriculture. On the one hand, the current government follows a general orientation to free trade and is reluctant to establish any protectionist measures on agricultural trade. On the other hand, the producers, either directly or through their own organisations and political parties, are trying to establish public financial support to agriculture and to restrict imports of food.

The steps, taken so far in agricultural policy-making, have been controversial. The subsidies that existed on food during the Soviet period, accounting for 4.8 per cent of the total cost of agricultural production in 1991, have since been phased out (Raig, 1992). Regardless of the general orientation towards free trade, the Government decided to impose a tax of 70 per cent on imports of wheat flour from Russia from September 1993 (Uibo, 1993) although such a decision was objected to by the Ministries of Economic Affairs and Finance (Mets, 1993). This tax was at the time of writing the only protectionist measure effectively in force.

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* Presented in Section 7.3.

Also, in June 1993, the Law on Agricultural Income was passed that sets a procedure for negotiations between the agricultural producers and the government about state subsidies to prices of agricultural produce (grain, meat, milk and eggs are specifically mentioned in the law). The first negotiations were finished by the end of September 1993. As a result, the producers' representatives and the Ministry of Agriculture agreed on desirable target prices for the achievement of which 748.5 million Estonian krones would be required from the state budget (Kruus, 1993). At the same time the Government does not have resources to pay subsidies to such an extent. The draft budget for 1994, as presented for parliamentary debates, only allocates 207.5 million krones for agriculture of which only 11.9 million are meant for price subsidies. This, once again, reflects the controversy of current agricultural policy making in Estonia.

The following data illustrate the role that agriculture currently has in the economy of Estonia. In 1990, agriculture provided approximately 12 per cent of employment (Ministry of Agriculture of Estonia, 1992) and, according to the Central Bureau of Statistics of Estonia, it accounted for 12 per cent of Gross Domestic Product in 1992. Exports of agricultural products comprised 20.1 per cent of total Estonian exports during the first quarter of 1993 (Aasmäe, 1993) and 13.3 per cent of total imports (*Äripäev*, 1993). According to the Baltic News Service 65.3 per cent of agricultural production was exported during the first two months of 1993 (BNS, 1993a). Over 28 per cent of the total population lives in rural areas where the role of farm employment is declining (*Eesti Vabariigi Põllumajandusministeerium,* 1993) as the new private agricultural enterprises are more conscious about the effective use of labour and as the demand for food-stuffs has declined due to low purchasing power of the population. According to the Central Bureau of Statistics, during the first quarter of 1993, agricultural jobs accounted 52.4 per cent of the total decrease of 11,513 in the number of jobs in Estonia (*Rahva Hääl*, 1993).

The productivity of agriculture in Estonia has been estimated to be significantly lower than in the neighbouring countries of Sweden and Finland where the climatic conditions are similar. According to the United States Central Intelligence Agency (USCIA, 1992) the weighted average crop (barley, oats, rye and potatoes) yield per hectare in Finland was 140 per cent and in Sweden 223 per cent of that in Estonia on the basis of 1988/89 harvests. The average annual milk yield per cow in Sweden

and in Finland was over 150 per cent of the yield in Estonia. According to the Ministry of Agriculture, productivity has declined since 1988/89.

Given this background of a high proportion of rural population, relatively low productivity in agriculture, relatively high importance of agriculture to the economy in terms of its share in the economy, in foreign trade and in provision of employment, the agricultural policy makers are facing a need to devise a comprehensive policy that has two main dimensions:

(1) agricultural development - improving the economic efficiency and efficiency of resource use of agricultural production in order to make best use of national resources, to reduce the need for imported inputs and to produce high quality food at low cost in order to effectively compete with imports;

(2) rural development - developing employment opportunities for people residing in rural areas who become redundant in the process of agricultural reform and as a result of potential increases in the efficiency of agriculture.

There will be strong pressures from agricultural producers for the Government to introduce import restrictions and production subsidies. On the other hand, as shown above, the economic possibilities for subsidising are currently very limited. Also, restrictions on imports would increase the prices of food that are already high in comparison with wages and would create unwanted problems in foreign trade relations and escalation of inflation. The outcome of current discussions still remain to be seen.

Steps are being taken to facilitate development in agriculture and rural areas as well as the producers' ability to organise and influence policy making and marketing. In July 1993, the Fund of Credits for Agricultural and Rural Development (*Põllumajanduse ja Maaelu Krediteerimise Fond*) was established and provides credits with an aim to facilitate (1) the development of small enterprises in rural areas, (2) the increase in the efficiency of agricultural production and quality of its produce and (3) the reorientation of enterprises that provide inputs to agriculture and process agricultural produce to match the new requirements of their markets. The Ministry of Agriculture has funded the elaboration of necessary legislation for establishing the Chamber of Rural Economy - an umbrella organisation for rural producers, the responsibility of which would be to coordinate and undertake agricultural and rural development activities as well as to negotiate with the

government. The Chamber of Rural Economy would amongst other things be responsible for the development of advisory services.

Depending on the outcome of political discussions one of the following two main alternative agricultural policy strategies is likely to be pursued in the near future:

- strategy of no price subsidies and no protection with fully market oriented production;
- strategy of restricting food imports and subsidising local producers with production orientated to satisfying the needs of local markets and for export if markets can be found.

The latter is more likely to replace the former if the current sharp decline in agricultural production (see Figure 7.6) should continue and the positive balance of payments on current account and positive balance of trade (BNS, 1993b) should become negative, thus making it difficult to justify the continuation of food imports that have recently developed.

In the case of either of the strategies it is in the national economic interest to improve agriculture's ability to produce efficiently in order to reduce the cost of production and the need to import farm inputs and agricultural products as well as to increase agriculture's ability to contribute to export earnings of the country.

In terms of the phases of agricultural policy orientation, described for the Conceptual Framework in Section 5.1, it is concluded that Estonian agriculture will be producing in conditions most similar to the SUSTAINABILITY phase with strong emphasis on increased efficiency that may have some similarities with GROWTH and EFFICIENCY phase if the macro-economic and political situation in Estonia will require expansion in agricultural production.

7.4.2. Currently Existing Sources of Agricultural Advice

Sources of Information

The information, presented in this Section, was developed while the author was working on the thesis project at the Insitute of Rural Development of Estonia (IRDE), during the period from December 1991 until October 1992*. This part of the work was financed by the Ministry of Agriculture of Estonia. The objectives of the project were to:

(1) appraise the situation in the provision of agricultural advice, and

(2) to devise a strategy for creating a national extension service in Estonia.

The situation was analysed in a number of different ways:

1. Initially, in January 1992, a one-day rapid appraisal session was organised, with 56 participants from a large variety of institutions concerned with agricultural production, education, research, advice and administration in Estonia. The participants were divided into three groups, each of which concentrated their attention on one of the following three aspects: the potential and existing suppliers of advice, the potential and existing consumers of advice, and the potential and current topics of advice. Using the knowledge and experience of the members, the groups compiled lists of issues/organisations regarding their relevant topics. This was followed by a participatory workshop where the groups related to each other giving feedback to other groups from their perspectives. The summary of the rapid appraisal session is presented in Appendix D.

2. The rapid appraisal session was followed by a series of fact-finding visits, during February and March, to organisations involved in providing information and advice to farmers in all 15 counties of Estonia.

3. As a next step, the project incorporated a series of networking activities over the period of March to October, 1992, including meetings in various institutions and three intensive organisation-development workshops (ODW). The three ODWs, held in March, June and September 1992 and lasting three days each, used a method developed at the IRDE, which involves a sequence of participatory workshops with multiple groups and presentations/feedback plenary sessions.

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* The author is indepted to his colleagues Jüri Ginter, Benno Maaring, Meelis Müil, Vilja Saluveer and Mati Tamm - members of the team - who also provided update information after October 1992 during the author's absence from Estonia in connection with the completion of this study at the University of Edinburgh.

Although, the workshops and the other networking activities were aimed at building a consensus among the various institutions concerned about the ways in which the national extension service in Estonia should be organised, they also provided valuable insight into the reality of existing arrangements and circumstances.

The information, collected during the above activities, in the form of statements from participants, meeting notes and the socially constructed reality (i.e. the perception of reality in participants' mind, created in the process of a structured and focussed discussion and debate during the ODWs) allows, in the Sub-Section that follows, a review of the situation in the Extension Complex of Estonia as it was in 1992/1993.

Current Situation in the Extension Complex of Estonia

There is no national public extension organisation in Estonia, but there are several organisations that provide advice to farmers. All of them have other functions in addition to advisory work. To some the provision of advice is only a marginal activity.

Four groups of institutions were identified, that existed in most of the fifteen administrative regions:

- National Family Farmers' Union and Regional Family Farmers' Unions. The Unions are an organisation of newly established family farms (8555 farms at the end of 1992 accounting for 11 per cent of total arable land) with political and economic goals that amongst other functions also provide advice to their members. Mainly their work and advice has been concerned with obtaining supplies and credits for farmers and finding outlets for their produce, but technological and economic advice has also been given. The advisory function has become more important over time. The National Family Farmers' Union has started developing a National Centre for Training and Extension for family farmers that has constantly received substantial support from the Government and under various foreign aid programmes.

- National and Regional Agricultural Producers' Unions. The Producers' Unions are economic organisations of large-scale agricultural producers. They employ staff who arrange purchases of supplies and marketing of produce for the

members and provide advice on related issues, i.e. where to obtain supplies or where to market produce. In the process of Agrarian Reform the membership of the Producers' Unions has been changing. As the large farms cease to exist many of the newly established larger units become members of this organisation.

- Most Departments of Agriculture of Regional Governments employed an adviser who had a task to facilitate the Agrarian Reform by explaining the procedure of reorganising state and collective farms. At least one Regional Government had established an advisory centre employing specialists in animal husbandry, arable farming and economic issues of farming who advised any producers in the region and referred them to other sources of advice.

- Regional and National Training Centres that had been established during the Soviet Rule for training skilled workers and middle-level managers (see also Section 7.3.4). The National Centre has been reorganised and provides mostly training but also advice to the newly established family farmers. Until June 1992, the activities of the Centre were subsidised by the state (50 % of costs), but since then the financing has been withdrawn due to budgetary constraints. Training is currently subsidised from the profits of other economic activities of the Centre with course fees covering approximately 15 per cent of the cost of training. Many of the Regional Centres have been closed or merged with the above regional structures as a result of the lack of funding.

The arrangements for advisory activities within each of the above groups differed from region to region. In some regions the advisory activities were more notable and in some little was done. In a few regions the different organisations had joined their resources and worked closely together whilst in some others a rivalry existed.

A number of specialised and general organisations that were standing alone in the sense that they did not have any regional or local branches or offices were to some extent involved in providing advice to agricultural producers:

- *The Agricultural University*. Departments of the University (mainly individual members of staff) advised family farmers and large scale farmers on request.

- *Agricultural Research Institutes*. The members of staff of the two institutes - the Institute of Animal Husbandry and Veterinary Science and the Institute of Land Improvement and Arable Farming - have been advising agricultural producers on various specific problems individually and under the auspices of the institutes.

Often this advice is given for a charge. The Institutes also have analytical facilities that are made available to producers.

- The Higher School of Agrarian Management (currently the *Institute of Rural Development* at the Agricultural University). The institute and its members of staff individually have been providing advice to large farms and family farmers on organisational and business development.

- The staff of *Agricultural Colleges* are often approached by local family farmers who are seeking advice, especially as the Colleges are reorienting their training programmes to the needs of private farmers.

- The *State Plant Protection Station* provided advice on all aspects of plant protection but was not responsible for the supply of agrochemicals.

In general, all the above organisations were experiencing severe financial difficulties as the funding from the state budget has been significantly reduced or withdrawn completely. The newly established organisations of family farmers have received some support that has not been sufficient for setting up and developing advisory services to the extent that would be needed. It is perceived that small farmers are not currently able and willing to pay for advice.

As can be noted from the above lists of organisations that are involved in advisory work, often the advice is given by individual members of staff (researchers, lecturers) of various research and training organisations. In addition, the graduate specialists of former state and collective farms who are locally well known are often approached by private farmers for advice. In 1990, a database of persons who indicated their willingness to work as advisers/consultants was created. The database included information about individuals who had responded to an advertisement in farming press and also about those participants of the courses at the Higher School of Agrarian Management who had indicated their interest. Details of almost one hundred individuals were recorded. In spring 1992, half of them were contacted by mail to identify whether they were actually involved in advisory work. All those who responded (29) had been providing advice, mostly as a supplementary activity to full time employment in some other organisation. The frequency ranged from a few times a month to 10 times a week. The respondents together covered a wide range of topics including arable farming, animal husbandry, land improvement, accounts, legal issues of establishment of private farms, use of computers, construction and design, heating systems etc. Individual respondents were narrowly

specialised. Advice was given to both, family farmers and employees of large farms.

No indication has been found of advice being provided by input supply organisations or processing/marketing organisations. Such organisations are currently undergoing privatisation. It is interesting to note that the participants of the rapid appraisal session, mentioned at the beginning of this Section, identified the supply and processing organisations as potential consumers rather than potential providers of advice (See the report of the rapid appraisal session in Appendix D). The reasons for such identification may lay in the problems currently faced by such organisations, briefly outlined below.

Many milk and meat processing organisations require modernisation and have difficulties in marketing as:

- their produce cannot be sold to the former USSR due to payment difficulties originating in inconvertibility of the rouble;
- local demand has declined due to reduced purchasing power of population;
- produce, imported to Estonia at dumping prices, is competing with local produce; and
- as exports to the west are restricted by trade barriers and relatively poor quality.

The activities of farm input suppliers are hampered by similar difficulties:

- farmers have little money to buy inputs as prices for farm produce have increased several times slower than those of inputs;
- the volume of agricultural production has declined and that has lead to decline in the use of inputs;
- the ownership and structure of agricultural enterprises is currently changing which has lead to loss of interest in maintaining production in the to-be reorganised farms and therefore to decline in the use of inputs.

7.5. Conclusions from the Conceptual Framework for the Development of the Extension Complex in Estonia

In Section 7.4.1, it was concluded that agricultural production and policies in Estonia are currently characteristic of the SUSTAINABILITY phase perhaps with some influences of the GROWTH and EFFICIENCY phase.

Estonian agriculture and the Extension Complex have, as a result of recent rapid political and economic changes in the society, emerged into the SUSTAINABILITY phase with no national public extension organisation and almost no public support for advisory activities as was indicated in Section 7.4.2.

As emphasised in Section 7.4.1, the productivity of Estonian agriculture is considerably lower than it potentially could be in the existing physical conditions. In the current situation, it is clearly in the national interests to achieve an efficient agricultural industry, capable of competitively producing high quality food for the nation, and possibly for export, thus avoiding currently scarce resources from being unnecessarily spent on importing food that can be, and has traditionally been, produced locally.

It was also shown, that there will be a need to facilitate general economic development in rural areas as, on the one hand, agricultural employment is in sharp decline thus causing a need for creating new jobs for the redundant rural population, and on the other hand, development of a new infrastructure is required which will meet the requirements of the reformed structure of agricultural production.

Under these circumstances a number of implications arise from the Conceptual Framework for the development of extension institutions in Estonia. The following conclusions can be made:

1. With regard to public involvement in providing advice to agricultural/rural producers and communities:

In the Conceptual Framework, it was demonstrated that in the conditions of the SUSTAINABILITY phase:

- the public financial support to agricultural production related advisory services would be expected to decline;
- the existing advisory activities on such issues would become user funded;
- public financial support to advisory work should shift to other rural issues of public concern, not directly related to agricultural production.

In these circumstances, which are exceptional when compared to Western European conditions, the Extension Complex emerges into the SUSTAINABILITY phase after rapid reforms in the society, a need is seen for initial public support for the provision of comprehensive advice to producers in order to drive agriculture towards greater efficiency more rapidly. This support may also come in a form of donor aid from foreign governments and agencies. As can be seen, the general policy orientation, characteristic to SUSTAINABILITY phase, appears to be overlapping with the policies of GROWTH and EFFICIENCY phase on the background of the need to increase agriculture's efficiency and output.

However, public support should not be viewed as permanent. It follows from the Framework, that public funding for advice on technical issues of agricultural production and issues of financial and business management on farms would be expected to reduce and advice on these subjects should increasingly be provided on a commercial basis.

Following the Framework, advice should be provided on a publicly subsidised basis on issues of rural economic development and diversification of economic activities, on socio-economic problems resulting from agrarian reform and on protection of environment.

2. With regard to provision of advice by suppliers of farm inputs:

In the Conceptual Framework, it was suggested that the scope for farm input supply organisations to maintain advisory services is likely to reduce in the SUSTAINABILITY phase.

Currently, again somewhat exceptionally in terms of the Western European experience, there is no considerable involvement in provision of advice to farmers on behalf of the manufacturers and suppliers of farm inputs. Therefore, the scope for such services may increase in short term as a result of a number of local circumstances such as:

- reorientation to supplies of inputs from the West: the factor of novelty of western inputs may increase the need for supply organisations to provide free advice on the use of their products;
- an increase in the number of agricultural producers (new decision makers), which came along with the agricultural reform and the consequent decrease in the size of farm businesses, is also likely to increase the need for information on product use in short term.

Also, local factors exist, such as the generally low purchasing power of farmers, which have a diminishing effect on sales of farm inputs and therefore on the scope for providing advice by the supply organisations.

All the above factors taken together, and placed in the perspective provided by the Conceptual Framework, lead to a conclusion, that the involvement of input suppliers should be expected to remain low unless an unlikely significant expansion of agricultural production increases the scope for sales of inputs and therefore the supply organisations' involvement in providing advice.

3. With regard to advisory services of organisations concerned with farm produce:

Currently, the processing organisations are not involved in providing advice to their suppliers. On the basis of the Conceptual Framework it can be concluded

that a significant increase in the scope for the involvement of such organisations in provision of advice to their suppliers is likely. This is explained with the fact that the quality of their produce, which to a large extent depends on the quality of the raw materials supplied to the organisations, is becoming crucial in being able to compete in domestic markets and expand into export markets.

4. With regard to independent consultants:

The role of independent consultants is likely to increase in the long term, especially in providing advice on specialised issues of agricultural production and on business management to agricultural and non-agricultural entrepreneurs. The need for business management advice is especially great as most of the people who have taken managerial responsibilities in the new enterprises had, during the Soviet rule, little opportunity for obtaining experience in running a business. On the other hand, a number of the skilled agricultural specialists from former large scale farms are now providing advice and services to newly established private/family farmers who lack the skills the specialists possess. These individuals are likely to continue providing advice either on their own, in small partnerships and also some of them will be employed by other advisory organisations.

8. SUMMARY AND OVERALL CONCLUSIONS

8.1. Summary

The origins of the study, presented in this thesis lay in the following two inter-related perspectives associated with agricultural extension:

1. Institutionalisation of agricultural extension activities has lead to the development of a great diversity of extension organisations world-wide. It has, however, become increasingly recognised, that a complex of different extension organisations, public and private, exist and operate within individual countries. Recent rapid developments in the balance between the different institutions in such Extension Complexes of various countries have brought about a need to develop an understanding of the ways in which Extension Complexes develop in changing circumstances.

2. The new situation facing the societies in Eastern and Central Europe has led to numerous reforms and the adoption of new policies in almost all spheres of life including agriculture. Faced with a pressure quickly to build extension institutions that would meet the new requirements, the agricultural policy makers in the countries of the East, including Estonia, have to identify where to place the emphasis. They often turn to the experience in the countries of the West which, all too often, results in suggestions to follow an example of one country or another. Again, a need can be seen for developing a broad understanding of the ways in which Extension Complexes develop in relation to the surrounding circumstances in order to be able to identify if an experience can be of relevance.

In the light of the above two perspectives the overall objective of the study was expressed as being twofold:

1. To develop an understanding about the way in which the Extension Complexes develop in relation to agricultural policy and the position of agriculture in the economy of a nation;

2. To identify, on the basis of this understanding, implications for the development of agricultural extension institutions in Estonia.

Several considerations, underlying the study of changes in the Extension Complexes, were identified and presented showing their relationship with the Complex:

1. Five major groups of institutions/organisations with potential interest in the provision of extension were distinguished on the basis of their functional linkage with agriculture and the nature of their interest to agriculture/rural communities:

    - Farmers;
    - National and local governments;
    - Organisations that supply farm inputs;
    - Organisations concerned with farm produce;
    - Independent consultants.

2. Two types of background factors affecting the configuration of an Extension Complex were distinguished:

    - Factors that are location-specific and do not change considerably over time. These include factors such as climate and topography of the location and particularly cultural norms and attitudes of the population.

    - Factors that change over time and therefore cause changes in the Extension Complex. Such factors include a number of general and specifically agriculture related economic and social parameters.

3. The importance of agriculture and rural communities for a nation and the way in which this role is reflected in policies of the government were considered to be a major factor influencing changes in the Extension Complex.

To meet the objective of the study, four consecutive phases were envisaged and carried out in the research:

1. A detailed insight was gained into the development of the Extension Complex in Great Britain and related to the changes in agriculture and in agricultural policy orientation that served as a background for the development of the Conceptual Framework undertaken in the next phase. To gain the insight:

- the development of the role of agriculture in the general economy and the statements with regard to agricultural economy were reviewed;

- data about the developments in public and private advisory organisations were collected and analysed;

- the changes in the main groups of extension institutions were presented in relation to the evolution of agricultural policy orientation.

2. A Conceptual Framework was elaborated, which relates major qualitative changes that occur in Extension Complexes as expressed by three major phases in agricultural policy orientation:

   - a phase where growth in agricultural output is encouraged at almost any cost;

   - a phase where expansion in agricultural output is encouraged on an equally important basis with increased efficiency of agricultural production;

   - a phase where policy orientation is supportive of increasing the economic and ecological sustainability of agricultural production and social sustainability of rural communities.

3. The developed Conceptual Framework was validated by adopting three country studies, specifically:

   - Denmark;
   - Finland;
   - The Netherlands.

4. A number of implications were identified from the Conceptual Framework for the development of extension institutions in Estonia after detailed investigation of the current situation and its origins. The main implications include the following:

   - provision of advice on issues related to agricultural production should be established with public start-up funds. Such advice should be expected to be provided on an increasingly commercial basis;

- public support should be made available for advisory work on issues of general economic development in rural areas and on protection of the environment;

- the input supply organisations cannot be expected to become important suppliers of advice unless expansion in agricultural output occurs;

- the role of organisations concerned with farm produce and that of independent consultants is expected to increase in the Extension Complex.

8.2. Conclusions

This study has confirmed that advisory work should be viewed as carried out by a complex of institutions and that this complex of institutions, referred to as the Extension Complex, is in continuous development.

The following general conclusions are made, based on the Conceptual Framework developed and validated in this thesis, about the ways in which the advisory activities of different groups of institutions in the Extension Complex change as the surrounding circumstances evolve:

1. Advice to the farming community is likely to be publicly funded on issues that are of public concern and in the national interest. The less important agricultural production becomes for a nation's survival and well being, the more likely it is that advice on issues of agricultural production will not be funded by the tax-payers. Advice on other issues important to the public will be made available free of charge at least initially in order to develop awareness about the issues amongst the target audiences.

2. The input supply industry's involvement in the provision of advice to farmers is likely to increase during periods when agriculture is expanding and modernising rapidly and also at times when new inputs are created and introduced.

3. Organisations concerned with marketing and/or processing of farm produce are likely to become involved (increase their involvement) in the provision of advice to farmers as improvement in the quality of produce becomes more important for their survival in the environment of increasingly competitive markets for farm products.

4. As agriculture becomes more open to risks and more complex following a reduction in public support and advances in technology then the Extension Complex becomes increasingly diverse in terms of subjects of advice and forms of organisation. Therefore, various independent consultancy operations have an increasing scope for satisfying specific demands of different client groups.

At the beginning of the thesis, the issue was raised, of using the experience of other countries in developing extension arrangements in one country's circumstances. The analysis of developments in the Extension Complexes of the four countries - Great Britain, Denmark, Finland and the Netherlands - has, among other things, illustrated how diverse the institutional arrangements for public extension services, undoubtedly the largest institution providing advice, can be.

There is no evidence of any single organisational arrangement for extension being better or worse *per se*. The Extension Complex as a whole has, in different countries, performed similar functions regardless to whether the arrangement for publicly supported agricultural advice has been that of ministerial advisory service (e.g. England), advisory service of farmers' organisations (e.g. Denmark and Finland), a combination of the two (e.g. the Netherlands) or based on an educational institution (e.g. Scotland). The extension arrangements in a country should always be viewed in a broad historic, cultural and economic context in order to see if any useful lessons are to be learned for another country.

Traditions, together with cultural and social norms, have had a significant weight in determining the way in which the public and private extension activities have institutionalised in the first place. These institutional arrangements have then been moulded by the influence of changes in the food situation, structure of agriculture, agriculture's position in the economy and the importance that a nation ascribes to agriculture and rural life.

The above observation suggests that if the institutional arrangements for agricultural and rural advisory work in Estonia and, indeed, in any other country are to be developed in such a manner as to best match the existing local needs, traditions and norms with the existing farming systems, knowledge systems, and human and material resources, then no model, directly copied from different circumstances, can be used. However, this study has demonstrated that the experiences, accumulated in different locations, can be of relevance to designing strategies and determining policy priorities with regard to extension development in a country, provided that such experiences are drawn from a broad basis, generalised to a sufficiently abstract level, and viewed and applied as a dynamic sets of relationships.

It is one of the fundamental understandings from this study that the different elements of the Extension Complex, and the balance between them, should be expected to change as the operational environment of the Extension Complex evolves. In Estonia, the changes are likely to be rapid in the foreseeable future. Therefore, the arrangements that are currently being made for public and private involvement in extension should allow for flexibility in order to keep pace with the likely changes.

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APPENDICES

Appendix A. Agenda for the Interviews

Check-List for In-Depth Interviews, i.e.

Topics to discuss with the interviewees

Personal career:

Background of the interviewee: farming, city, reasons for working in extension?
Education: college, speciality?
Experience outside extension?
Starting date of work in extension?
Extension agencies worked for? Names of the organisations?
Positions in organisations providing advice?

Information about the companies:

When was the company established?
When did the company start to provide advice?
What are the main activities of the organisation? Is the provision of advice the main occupation or is it supportive to some other activities? What are the other activities?
What have been the objectives for advisory work in the companies? Why was the company engaged in the provision of advice?
The organisation of advisory activities in the company? Has the organisation evolved? How?
What was/is the number of advisers working for the company?
How have the extension topics (matters, problems) changed?

Opinions about changes in the past of extension work:

How has the advisory work of the organisations changed? Has there been growth, decline or no change in the amount of work? Has there been change in the subjects? Quantify if possible.

When did the changes take place?

In your opinion, what have been the reasons behind the changes?

Other organisations

What new organisations that are involved in providing advice have emerged and when, (e.g. competitors, individual consultants, larger organisations)?

Appendix B. The Mail Survey of Individual Independent Consultants and Small Advisory Businesses

1. The Questionnaire

DEVELOPMENT OF ADVISORY SERVICES FOR FARMING INDUSTRY IN BRITAIN
Questionnaire

This questionnaire is designed for sending to many advisers/consultants with very different background and experience. You may therefore feel that some parts of it are less appropriate to your situation. If this is the case, please comment on the last page.

1. In which year did you begin working specifically as a consultant/farm adviser?

2(a) Are you currently self-employed with other professional staff working for you?

Yes — *If Yes, go to question 3*
No — *If No, continue with question 2(b)*

2(b) Are you currently self- employed without other professional staff working for you?

Yes — *If Yes, go to question 7*
No — *If No, continue with question 3*

3. What is the number of professional advisory people employed by your company?

Please tick as appropriate

1		2 - 5		6 - 10		10 +	

If you are self employed, please go to question No. 7

4. In which year did you begin working as an adviser/consultant in this company?

5. In which year did the company start providing advice for farming industry?

6(a) What was your last previous occupation?

6(b) With what company (if appropriate)?

If you are not self-employed, go to question No. 9

7. In which year did you establish yourself as a self-employed consultant/adviser?

8(a) What was your last previous occupation?

8(b) With what company (if appropriate)?

9. What services do/did you offer as a consultant to the farming industry?

Please skip parts of this question concerned with periods that are irrelevant to your career or age.

9(a)1 What services do you offer currently (1991)?

Please tick as many as relevant

1. Technical farm enterprise management		13. Mortgage Arrangements	
2. Feed management for livestock		14. Purchases of Additional Land/Farms	
3. Animal Husbandry		15. Marketing Arrangements	
4. Fertilizer recommendations		16. Legislation & Taxes	
5. Weed Control		17. Safety	
6. Pest Control		18. Conservation	
7. Soil Management		19. Planning applications	
8. Drainage & Irrigation		20. Diversification	
9. Machinery			
10. Farm Business Management		21. Day-to-Day Farm Management	
11. Farm Planning and Budget Control		22. Visits to Farmer-Clients	
12. Applications for Grants		23. Record Keeping	

9(a)2 What are the two main areas of your services?

1.
2.

9(a)3 Do you anticipate a change in this over the next 5 years?

Yes No

If Yes, please specify

9(b)1 What services did you offer 5 years ago (1986) if any?

Please tick as many as relevant

1. Technical farm enterprise management		13. Mortgage Arrangements	
2. Feed management for livestock		14. Purchases of Additional Land/Farms	
3. Animal Husbandry		15. Marketing Arrangements	
4. Fertilizer recommendations		16. Legislation & Taxes	
5. Weed Control		17. Safety	
6. Pest Control		18. Conservation	
7. Soil Management		19. Planning applications	
8. Drainage & Irrigation		20. Diversification	
9. Machinery			
10. Farm Business Management		21. Day-to-Day Farm Management	
11. Farm Planning and Budget Control		22. Visits to Farmer-Clients	
12. Applications for Grants		23. Record Keeping	

9(b)2 What were the two main areas in that period?

1.
2.

9(c)1 What services did you offer 10 years ago (1981) if any?

Please tick as many as relevant

1. Technical farm enterprise management		13. Mortgage Arrangements	
2. Feed management for livestock		14. Purchases of Additional Land/Farms	
3. Animal Husbandry		15. Marketing Arrangements	
4. Fertilizer recommendations		16. Legislation & Taxes	
5. Weed Control		17. Safety	
6. Pest Control		18. Conservation	
7. Soil Management		19. Planning applications	
8. Drainage & Irrigation		20. Diversification	
9. Machinery			
10. Farm Business Management		21. Day-to-Day Farm Management	
11. Farm Planning and Budget Control		22. Visits to Farmer-Clients	
12. Applications for Grants		23. Record Keeping	

9(c)2 What were the two main areas in that period?

1.
2.

9(d)1 What services did you offer 15 years ago (1976) if any?

Please tick as many as relevant

1. Technical farm enterprise management		13. Mortgage Arrangements	
2. Feed management for livestock		14. Purchases of Additional Land/Farms	
3. Animal Husbandry		15. Marketing Arrangements	
4. Fertilizer recommendations		16. Legislation & Taxes	
5. Weed Control		17. Safety	
6. Pest Control		18. Conservation	
7. Soil Management		19. Planning applications	
8. Drainage & Irrigation		20. Diversification	
9. Machinery			
10. Farm Business Management		21. Day-to-Day Farm Management	
11. Farm Planning and Budget Control		22. Visits to Farmer-Clients	
12. Applications for Grants		23. Record Keeping	

9(d)2 What were the two main areas in that period?

1.
2.

9(e)1 What services did you offer 20 years ago (1971) if any?

Please tick as many as relevant

1. Technical farm enterprise management		13. Mortgage Arrangements	
2. Feed management for livestock		14. Purchases of Additional Land/Farms	
3. Animal Husbandry		15. Marketing Arrangements	
4. Fertilizer recommendations		16. Legislation & Taxes	
5. Weed Control		17. Safety	
6. Pest Control		18. Conservation	
7. Soil Management		19. Planning applications	
8. Drainage & Irrigation		20. Diversification	
9. Machinery			
10. Farm Business Management		21. Day-to-Day Farm Management	
11. Farm Planning and Budget Control		22. Visits to Farmer-Clients	
12. Applications for Grants		23. Record Keeping	

9(e)2 What were the two main areas in that period?

1.
2.

10. How would you describe your typical client *(10(a) to 10(d))?*

10(a) Is he/she (*tick as appropriate***):**

Tenant	
Owner occupier	
Landowner who does not farm	
Mixed	
Full-time farmer	
Part-time farmer	

10(b) Farm size (*please tick one***):**

Small (under 1 man-year of work)	
Average (1 - 2 man-years of work)	
Large (more than 2 man-years of work)	

10(c) Farm type (*please tick one***) :**

Arable farm	
Dairy farm	
Pig farm	
Mixed	
Other	

If "other", please specify:

10(d) Client's main business is(*please tick one***):**

Totally agricultural	
Agriculture related	
Non-agricultural	

11. What is the approximate number of farm businesses you are responsible for in your advising/consulting activities?

12. Please tick the appropriate box for your age range

25 - 35		36 - 45		46 +	

Thank you for completing this survey!

Please return the questionnaire to:
Ivar Dembovski
The Scottish Agricultural College,
West Mains Road,
Edinburgh,
EH9 3JG

2. Tables with the Results of the Mail Survey

Table B1. Responses from the Mixed Group (members of BIAC in 1991); Number of respondents ticking against a subject.

Year	**1971**	**1976**	**1981**	**1986**	**1991**
Subjects					
Animal Husbandry	8	11	19	28	37
Fertilizer Recomm.	6	8	14	33	51
Weed Control	4	3	10	29	36
Pest Control	2	2	9	25	34
Soil Management	3	3	10	32	42
Drainage & Irrigation	2	4	7	18	23
Machinery	4	6	9	16	20
Farm Business Managem.	12	20	35	46	67
Planning & Budgets	13	22	38	54	73
Record Keeping	10	18	30	44	55
Grant Applications	7	17	31	40	52
Mortgage Arrangements	4	8	16	21	33
Land Purchases/Sales	7	9	21	28	39
Marketing Arrangements	2	3	7	18	29
Legislation and Taxes	2	3	10	15	21
Safety	1	1	3	8	19
Conservation	3	2	5	18	29
Planning Applications	2	7	14	20	39
Diversification	3	5	11	28	48
Day-to-Day Farm Manag.	7	14	23	31	41
Total Number Responding	20	30	51	87	119

Table B2. Responses from the Group of Independent Crop Consultants (members of AICC in 1991); Number of respondents ticking against a subject.

Year	**1971**	**1976**	**1981**	**1986**	**1991**
Subjects					
Animal Husbandry	0	0	1	1	2
Fertilizer Recommendations	1	4	18	28	35
Weed Control	1	5	21	29	35
Pest Control	1	5	21	30	36
Soil Management	1	4	14	23	32
Drainage & Irrigation	0	0	2	2	4
Machinery	0	1	2	5	8
Farm Business Management	0	0	3	6	11
Planning & Budgets	0	0	3	7	11
Record Keeping	0	0	5	11	15
Grant Applications	0	0	2	3	5
Mortgage Arrangements	0	0	0	0	1
Land Purchases/Sales	0	0	1	2	4
Marketing Arrangements	0	0	1	1	3
Legislation and Taxes	0	0	0	0	1
Safety	0	0	1	2	6
Conservation	0	0	3	4	9
Planning Applications	0	0	0	1	3
Diversification	0	0	1	2	4
Day-to-Day Farm Management	0	0	3	6	12
Total Number Responding	1	5	21	31	36

Appendix C. Examples of Questionnaires for Collecting Validation Data

Example 1. A questionnaire used to obtain information about advisory activities of a particular company.

PRIVATE ADVISORY SERVICES TO FARMERS IN DENMARK

This questionnaire is asking for your personal opinion about developments.

Please feel free to comment anywhere and add any relevant information.

1. GENERAL

1.1. In what year was your organisation/its predecessor established?

1.2. In what year (approximately) did your organisation (its predecessor) start providing advice to farmers?

1.3. Why did your organisation become involved in advisory work?

1.4. How has the total number of advisers (representatives who are involved in advising) developed since the beginning of the involvement?

Year	Number of "advisers"
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

1.5. If there has been an increase or decrease in the number of "advisers" please explain the reasons for these changes

1.6. Have other suppliers of livestock feed been giving advice to farmers in Denmark?

1.7 When did they start doing so?

1.8. Has the involvement of suppliers of livestock feed in advising farmers changed over time?

	please indicate period
increased	.....
decreased	.....

2. SUBJECTS OF ADVICE

2.1. Please list the current main topics of advice?

2.2. What subjects were important at the beginning of your organisation's involvement in advisory work?

2.3. Has the emphasis shifted to different topics over the years? Please write what has been the main change.

2.4. Approximately in what year did the change in the subjects of advice take place? What was the reason for the shift in emphasis?

2.5. Has your organisation ever been giving advice on general farm issues e.g. farm management, record keeping etc?

At what period?

What was/is the motivation for giving such advice

3. FINANCING OF ADVISORY WORK.

3.1. Is the advisory work currently financed (please tick)

by charging the farmers a fee for services
from a general levy on produce
from the profits of your organisation
other (please specify)

3.2. Has the financing been different in earlier years (please describe briefly)?

3.3. In what year did the financing change and why?

4. ADVICE FROM INDEPENDENT SMALL CONSULTANCIES

It has been very difficult to obtain information about independent individual consultants and small independent advisory businesses that work with farmers in Denmark.

Therefore, I ask for your opinion in this respect as well.

4.1. Are there any small agricultural advisory businesses operating in Denmark?

4.2. In what year approximately did they first emerge?

4.3. Has there been a steady growth in their numbers or have there been periods of more rapid growth?

4.4. What are the main subject areas of their advice?

horticulture
farm management
arable farming
livestock farming
forestry
other (please specify)

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE !

Please return the questionnaire to:

Example 2. Questionnaire used for obtain overall opinions about the development of the Extension Complex in a country

EVOLUTION OF ADVISORY INSTITUTIONS IN DENMARK 1945-1993

This questionnaire is asking for your personal opinion on the matters concerned.

1. INDEPENDENT CONSULTANTS AND SMALL CONSULTANCY BUSINESSES;

1.1. ORGANISATIONAL DEVELOPMENT

1.1.1. When did the first small consultancies/ independent consultants for agriculture emerge in Denmark?

1.1.2. In your opinion, what triggered their emergence?

1.1.3. Has there been a steady increase in the numbers of independent advisers or have there been periods of more rapid growth (please estimate the years of more rapid growth)?

1.1.4. What has been the reason for the growth?

1.1.5. Can you estimate the number of independent consultants for agriculture in Denmark at various times?

1960 .....
1970 .....
1980 .....
1990 .....

1.2. DEVELOPMENT IN SUBJECT AREAS

1.2.1. What was their field(topics) of advice of the first independent consultants?

1.2.2. Has there been a change in the subject areas in which the independent consultants advise? Please identify the change and time?

1.3. COMMENTS

1.3.1. Please write any comments you may have on development of independent private consultants

2. SUPPLIERS OF FARMING INPUTS (feed, chemicals, fertiliser etc);

2.1. ORGANISATIONAL DEVELOPMENT

2.1.1. Have the suppliers of inputs been involved in providing advice to farmers?

a) feed suppliers	yes/no
b) suppliers of chemicals	yes/no
c) suppliers of fertilizers	yes/no
d)	
e)	

2.1.2. When did they start advising farmers?

a) feed suppliers	.....
b) suppliers of chemicals	.....
c) suppliers of fertilizers	.....
d)	.....
e)	.....

2.1.3. Has their involvement in advising increased or decreased (in terms of number of advisers), when did the change take place?

	Time of change	Nature of change (incr/decr)
a) feed suppliers	.....	.....
b) suppliers of chemicals	.....	.....
c) suppliers of feed	.....	.....
d)	.....	.....
e)	.....	.....

2.1.4. Why did the involvement change?

2.2. DEVELOPMENTS IN THE SUBJECTS

2.2.1. Have the input suppliers expanded their advice to areas other than directly related with the inputs that they supply (e.g. farm business management, whole farm management, feed management in general etc)? Please specify when and what topics.

2.2.2. Can you identify other changes in the topics of advice given by suppliers of farm inputs?

2.3. COMMENTS

2.3.1. Please write any comments of the development of advisory services of suppliers of farm inputs

3 HANDLERS OF FARM PRODUCE (dairies, processors of vegetables etc).

3.1. ORGANISATIONAL DEVELOPMENT

3.1.1. Do organisations concerned with farm produce provide advice to farmers in Denmark?

3.1.2. Please identify some types of such organisations?

1. Dairy Factories	yes no
2. Slaughter Houses	yes no
3. Freezing Plants	yes no
4. Grain Merchants	yes no
5. Seed Merchants	yes no
6.	

3.1.3. When did the handlers of farm produce start advising farmers

	Year
1. Dairy Factories	.....
2. Slaughter Houses	.....
3. Freezing Plants	.....
4. Grain Merchants	.....
5. Seed Merchants	.....
6.	.....

3.1.4. For what reasons did they become involved in advising

3.1.5. Has there been a change in their involvement (in terms of numbers of advisers) in providing advice?

	Year and change
1. Dairy Factories	.....
2. Slaughter Houses	.....
3. Freezing Plants	.....
4. Grain Merchants	.....
5. Seed Merchants	.....
6.	.....

3.2. DEVELOPMENTS IN THE SUBJECTS OF ADVICE

3.2.1. On what issues do/did they advise the farmers? Has there been a change in the issues?

1. Dairy Factories

2. Slaughter Houses

3. Freezing Plants

4. Grain Merchants

5. Seed Merchants

6. .....

3.3. COMMENTS

3.3.1. Please write any comments you may have on development of advisory services at the organisations concerned with farm produce

Thank you for completing this questionnaire!

Appendix D. Summary Report of the Rapid Appraisal Session on Agricultural Advice in Estonia

Agricultural Advice in Estonia

What kind of advice can be needed,
who will need the advice,
what could be the sources of advice
and how to organise the provision of advice?

The rapid appraisal session took place at the Higher School of Rural Management, Tartu, Estonia on January 22, 1992.

Prepared by Ivar Dembovski for distribution to the English speaking participants of the follow up workshop.

INTRODUCTION

The target of the rapid appraisal session was to provide a wide description of three main topics that could be summarised by the following three questions:

- who can be the consumers of advice;
- what kind of advice can be needed;
- what could be the sources of such advice.

The present summary consists of three main parts each giving an overview of the work done by one of the three groups into which the participants were divided. The fourth and concluding part contains the suggestions that the participants considered necessary to take into account in setting up and running the advisory organisation for Estonian agriculture. As it was not the aim of the rapid appraisal session to generate ideas about the organisation the suggestions presented in the fourth part are those that emerged as a by-product of the session.

It was not specified in advance whether the discussion was about rural or purely agricultural advice. Therefore ideas about both emerged and are presented below.

PART 1 POTENTIAL CONSUMERS OF ADVICE IN RURAL AREAS, IN AGRICULTURE AND IN AGRICULTURE RELATED SPHERES.

The group had a task to outline as many different social groups that could potentially need agricultural or related advice. The following is somewhat systemized list of what the group presented in the concluding session of the rapid appraisal activity. It was pointed out that different groupings will need different kinds of advice and that the sources of advice and support can and will vary for each of the groupings.

1. Agricultural producers:

Various forms of proprietorship and enterprise:

- family farmers (heirs of former landowners) and farmers-new-settlers (those who had no right to reclaim the land of their parents and applied for farmland);
- rural people who keep a few animals in addition to their full time job;
- state and collective farms (sovkhoses and kolkhoses);
- partnership farms, farming cooperatives and limited companies (new forms of using former assets of state and collective farms by a a smaller circle of people. These forms emerged as a result of privatisation in AGRICULTURE. Usually such farms are

larger in size/staff/number of livestock.

Various farm enterprises:
- arable farms;
- fodder growers;
- livestock farms;
- poultry farms;
- horticultural farms, orchards, gardening cooperatives (allotments of city people);
- bee-keepers;
- fishermen, fish farms;
- fur farms;
- foresters, hunters;
- farm tourism, recreation.

2. *Processors of the production of agriculture* (they need advice in strategic matters of agricultural development):

Cooperative processors that are being created;
The managers of existing processing industries:
- wool factories, flax processors;
- state grain store and mills;
- meat processing factories;
- milk processing factories;
- preserve factories etc.

3. *Producers of inputs for agriculture:*

Producers of animal feed;
Producers of machinery and equipment;
Producers of fertilizers;
Producers of herbicides;
Producers of construction materials;
Producers of seed.

4. *Industries servicing agriculture*:

Banks;
Energy and electricity services;
Telecommunications;
Wholesale and retail trade;
Transportation;
Designers and builders;
Melioration;
Artificial insemination;
Computing services;
Laboratories (for milk, soil, blood, feed etc analyses);
Market places;
Importers and exporters;
Exchanges;
Garages and repair services for machinery;
Insurance;
etc.

5. *Administrative and legislative institutions:*

Village councils and governments;
Provincial councils and governments;

Members of Parliament;
Government;
Ministry of Agriculture;
Authorities of nature and environment protection;
Tax office;
State control;
Social care institutions;
etc.

6. *Others*:

Journalists;
Public opinion;
People of the cities;
Medical doctors;
Farm workers;
Rural unemployed-to-be;
etc.

PART 2 TYPES AND TOPICS OF ADVICE THAT CAN BE NEEDED IN RURAL AREAS, IN AGRICULTURE AND IN AGRICULTURE RELATED SPHERES.

The task of the second group was to develop as diverse as possible picture of the topics and types of advice. The group succeeded in presenting a list of 71 items that they classified and generalised.

It was emphasized by the group that various topics become more important if not overwhelming at different stages of development of the situation and that some subjects cease from being relevant.

1. *How to carry on from the current situation:*

Clarification of the abilities, possibilities and motives of the consumer of the advice. Attempts to predict the tendencies in the development of the background system. Elaboration of programmes future and more detailed planning of necessary actions.

Decision making, the process of reaching a decision, avoiding delays in decision making (in a family, in a farm, in an organisation).

Analysis of the place and conditions, labour issues, description of lifestyle.

2. *Specific advice in one of the following fields:*

Plant-growing, animal husbandry, forestry, plant protection, plant and stock breeding, "green" production etc.

Environmental protection.

3. *Advice related to politics and agricultural policies:*

Politics and policies of the government, of the parties, of the provinces, of the villages, of the world.

The laws related to agriculture.

4. *Advice related to economics and market relations:*

Book keeping, record keeping, credit, taxes, transactions, reports,

banks, market economy, prices, subsidies.

Demand, quality, supplies, trade, foreign markets, competitors, other companies.

6. Laws and standards:

Quality requirements, safety requirements, cleanness requirements.

7. Entrepreneurship and the forms of enterprises:

Limited companies, family farms, partnership farms, cooperatives etc.

8. Advice about the technological circle:

Advice about the whole farm, agricultural processes on a farm as a system (starting from ploughing and sowing to storage and selling of the final product of the farm) including all aspects of the production (technology, economic, social aspects) as opposed to advice about a specific part of production technology.

9. Advice about change and implementing change:

How to bring along changes in the technology, quality, prices, products, labour (e.g. change from a father to a son, a change from state farm worker to a family farmer).

10. Advice related to people and human relations:

Conflicts, stress, leadership
Recreation, health care
Family, home

11. Advice about energy matters:

Economic aspects of energy use (prices of products, structure of production etc).

Technological aspects of energy use (how to save).

12. Advice about education and further education:

Career planning for the rural young, possibilities for retraining and further education, influencing the contents of courses and teaching programmes.

13. Advice about advice:

Where to get advice, what kind of advice is available, credibility of advice etc.

PART 3 POSSIBLE SOURCES OF ADVICE

The task of the group was to outline the organisations and institutions that could provide advice for agriculture and the related spheres. The group also listed institutions that could be interested in organising such advice. (most of the institutional structures listed below do not yet have an advisory service but the participants considered that if such structures already exist they will sooner or later become engaged in providing some kind of advice).

A *Institutional structures:*

1. Emerging advisory services of provincial governments.
2. Emerging advisory services of provincial farmers unions.
3. Advisory service of the ministry of agriculture (not existing).
4. Existing provincial vocational training centres.
5. Existing agricultural colleges of various provinces.
6. Chamber of Agriculture (should be created along similar lines to the one that existed in 1934 to 1940).
7. Agricultural research institutes in direct links with producers.
8. Agricultural research institutes via the advisory centre that has to be created.
9. The existing plant protection stations together with agochemistry centres.
10. Existing agricultural producers unions.
11. Existing state run experimental and breeding centres.
12. Advisory services of processors of agricultural products (not existing).
13. Associations and Unions (specialised in various branches of agricultural production).
14. Private consultants.
15. Information-centre/publisher (not existing).
16. Agricultural University, Higher School of Rural Management, University of Tartu, Tallinn Technical University;
17. The Centre for Agricultural Training and Advice.
18. Design Institutes.
19. Weather Forecasting Centre.
20. State forest farms.
21. Nature Protection Office.
22. The Office for Equipment Safety.
23. Firemen.
24. Tax Office.

B *Classification by the scope and topics of advice:*

1. General advisers.
2. Specialist advisers.
3. People engaged in providing further education (a specific way of advice).

The group also discussed the principles of financing the advisory service and the ways of organising the financing. The group proposed the following sources for funds:

1. The State.
2. Consumers of Advice:
   agricultural producers;
   processors of the agricultural output;
   trade organisations;
   suppliers of inputs.
3. Local Authorities (the regions and municipalities).
4. Foreign aid.

The group could see three alternative ways of organising the financing of which the third was considered most suitable:

I The Ministry of Agriculture will provide funds for the Regional Governments that will decide the distribution of funds to agricultural matters and the share of the Advisory Service in it.

II The Ministry of Agriculture will set up the Advisory Service. It will also provide the finances the use of which will be decided by the Advisory Service itself.

III A Chamber of Agriculture will be created. The Chamber will be financed directly from the state budget. In addition to the funds from the budget the Chamber may receive payments from the consumers of advice, from local authorities and as a foreign aid. The Chamber will finance different departments that it has, including the Advisory Service.

PART 4. SUGGESTIONS FOR SETTING UP THE ADVISORY SERVICE

The groups were also asked to give some thought to what steps should be taken in order to create the Advisory Service:

1. The need for an agricultural advisory service should be brought to the attention of public opinion.

2. The Service should be created taking into account all the existing structures that are already actively giving advice.

3. The education schemes should be set up for training of advisers and the managers of the Service.